



U.S. Department
of Transportation
**Federal Aviation
Administration**



SDR

Summary

Service Difficulty Reporting

January 4, 1998 - January 10, 1998

GENERAL AVIATION, ZAC-327

You can improve Air Safety by reporting the problem when you see it!

SECTION

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- II Domestic Service Difficulty Report
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ISSUE: 98-02



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SDR SUMMARY

General Aviation, ZAC-327



This summary includes domestic (United States) Service Difficulty Reports (SDRs) entered into the data base for aircraft weighing 12,500 lbs. and below. It also includes reports on aeronautical products (engines, propellers, and components), and all helicopters. A separate section for International SDRs for aircraft weighing 12,500 lbs. and under has also been included. Under a data exchange agreement, International SDRs are submitted to the FAA by the Civil Aviation Authority of other countries (currently, Canada - CAN, and Australia - AUS). All reports are sorted by aircraft make, model group (basic model), and Joint Aircraft System/Component (JASC) code. Within each aircraft model group, the specific model shown may vary, but similar types of reports will be grouped together and listed in ascending order by their JASC code. Each field contains all information submitted to the FAA. Some fields are not included in order to make the summary easier to read. Additional information may be obtained by referring to the "operator control number." Send your request to the Aviation Data Systems Branch, AFS-620 at the address or phone below.

The Regulatory Support Division (AFS-600) has established a "HomePage" on the Internet through which the same information is available. There is a large quantity of other information available through the AFS-600 HomePage such as the most current SDR system codes (i.e., Joint Aircraft System/Component Codes). The SDR Question and Answer Section of the Summary will also be transferred to the AFS-600 HomePage to simplify the process of preparing the SDR Summaries in the PDF format each week. There are "hot buttons" to take you to other locations and sites where FAA Flight Standards Service Information is available. The AFS-600 "HomePage" address is:

<http://www.mmac.jccbi.gov/afs/afs600>

"The Service Difficulty Reports in this publication are derived from unverified information submitted by the aviation community without FAA verification for accuracy. The number of SDRs submitted is not an indication of the mechanical reliability or fitness of an airline or individual operator, and the information should not be used as such."

Comments are welcomed and may be directed to:

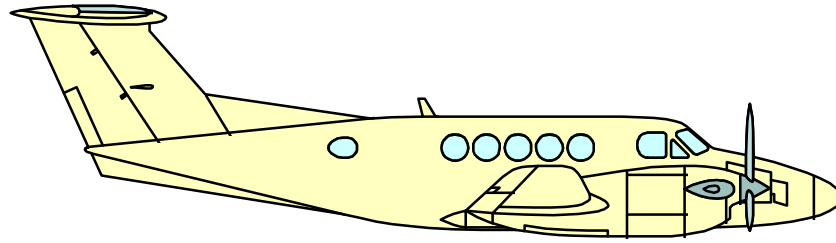
*Federal Aviation Administration
Aviation Data Systems Branch, AFS-620
P.O. Box 25082
Oklahoma City, OK 73125-5029
Phone: (405) 954-4171, Fax: (405) 954-4748*

Your continued participation is essential and is an integral part of ensuring aviation safety. Thank you for supporting the Service Difficulty Program! If you have any questions regarding this special notice you can contact John Jackson at (405) 954-6486, or Jim Gillespie at (405) 954-1141, or Blake McDonald at (405) 954-0307 in the Aviation Systems Branch (AFS-620). Their E-mail addresses are:

john_e_jackson@mmacmail.jccbi.gov

james_gillespie@mmacmail.jccbi.gov

blake_mcdonald@mmacmail.jccbi.gov



SIGNIFICANT OCCURRENCE REPORT





U.S. Department
of Transportation
**Federal Aviation
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THE SIGNIFICANT OCCURRENCE REPORT



The Significant Occurrence Report is a compilation all of the star bordered reports that appear in the General Aviation Service Difficulty Report (SDR) Summary, ZAC-327. The Significant Occurrence Report is used to highlight industry problem areas to field inspectors and the aviation public.

Limited analysis is performed by the Aviation Data Systems Branch, AFS-620 during the preparation of the "Significant Occurrence Report", which is generated each week and is included in the front of the Air Carrier SDR Summary. Significant Reports are hand selected by AFS-620's inspectors based on the individual merit of each report. The criteria for selection includes, but is not limited to, items that indicate high failure rates; items related to accidents or incidents; or design or maintenance failures which may affect the safe operation of the aircraft.

In some cases, this limited analysis of SDR data leads to the preparation of information bulletins which are routed to the appropriate product certification office for further investigation of the problem. The end result may be the issuance of an airworthiness directive (AD) by the Aircraft Certification Service (AIR) if warranted.

The Significant Occurrence Report (section I) of the weekly SDR Summary is not intended to be a summary of all significant events and should not be used as such. We recommend that you review further the applicable sections of the SDR summary that may be of interest.

GENERAL AVIATION SIGNIFICANT OCCURRENCE REPORT

1/4/98 - 1/10/98 ISSUE: 98-02 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
2721	540FT	AMTR				SWITCH	STUCK		11/16/97
	2107	GLASAIRIII					RUDDER TRIM		97ZZZX5135
*****	RUDDER TRIM ROCKER SWITCH STUCK IN LEFT POSITION CAUSING FULL LEFT RUDDER TRIM DURING TAKEOFF ROLL. TAKEOFF ABORTED. AFTER MAXIMUM APPLICATION OF BRAKES, BRAKE LINE FAILED AND SUBSEQUENT BRAKE FIRE. SWITCH FAILURE WAS ABLE TO BE DUPLICATED APPROXIMATELY 1 OUT OF 10 ACTUATIONS OF SWITCH.								
7322	999TD	AMTR	LYC			SERVO	CORRODED		11/1/97
	1546	LONG EZ	IO360A1B6			2524054	FUEL INJECTION		98ZZZX58
*****	DURING FLIGHT, ACFT ENGINE LOST POWER FOLLOWING A ONE 'G' POSITIVE MANEUVER. INVESTIGATION FOUND FUEL INJECTION SERVO WAS HANGING UP. SUSPECT CORROSION AND LACK OF LUBE.								
6122	924RM	BEECH				GOVERNOR	FAILED		12/19/97
	BE63	B100			WOODWARD	8210260	PROPELLER	294	98ZZZX94
*****	DURING FLIGHT, RIGHT ENGINE FLAMED OUT, NTS AND THE PROP FEATHERED. AN UNEVENTFUL LANDING WAS PERFORMED. UPON INSPECTION, FOUND THE ARM HAD FALLEN OFF OF THE PROP GOVERNOR SPLINED SHAFT. THE MOUNT BOLT WAS STILL SECURE IN THE ARM. THIS IS THE SECOND OCCURRENCE OF A B-100, ONE FAILED ARM HAD A SAFETY AND THIS ONE DID NOT. IT IS SUGGESTED THAT ON ENGINE INSPECTIONS, THE ARM BE PULLED ON FOR SECURITY TEST AND THAT THE MOUNT BOLT BE CHECKED FOR TIGHTNESS.								
5741	6049L	BEECH				FITTING	CRACKED	10063	10/19/97
	ME202	76				1054200113	LT WING ATTACH		98ZZZX51
*****	INSPECTION FOUND LEFT WING ATTACH FITTING CRACKED.								
5741	272BA	BEECH				FITTING	CRACKED		9/9/97
	ME90	76				1054200113	LT WING ATTACH		98ZZZX44
*****	INSPECTION FOUND LEFT AND RIGHT WING ATTACH FITTINGS CRACKED.								
7322	47AH	BELL	LYC			BELLOWS	FAILED		10/28/97
	2645	47G3B	TVO435A1A		MA6AA	293548	CARB MIXTURE	1086	98ZZZX84
*****	HELICOPTER LOST ENGINE POWER IN-FLIGHT. DURING GROUND RUN TROUBLESHOOTING PROCESS, THE ENGINE WOULD NOT OPERATE ABOVE 1500 RPM. THE MARVEL SCHEBELER (MODEL MA-6AA, SN AH-1-383) CARBURETOR WAS BENCH TESTED BY THE NTSB AND WOULD ONLY PERFORM APPROXIMATELY 50 PERCENT CAPACITY. DURING CARBURETOR TEAR DOWN INSPECTION, FOUND PLASTIC RESIN ADHESIVE MISSING. THIS ADHESIVE LOCKS THE BELLOWS TO THE SHAFT ON THE AUTOMATIC MIXTURE CONTROL (PN 293-548). THIS ALLOWED THE BELLOWS TO MOVE DOWN THE SHAFT, THEREFORE, LIMITING FUEL OUTPUT.								
7120	2770Q	CESSNA				MOUNT BOLT	DETACHED		12/1/97
	18257970	182K					ENGINE		98ZZZX45
*****	DURING OIL FILTER CHANGE, A REAR LORD MOUNT BOLT WAS FOUND DETACHED. OTHER 3 BOLTS WERE NOT TO TORQUE. ENGINE INSTALLED IN 1988 AND IT IS SUSPECT BOLTS NOT PROPERLY TORQUED.								
2820	410GV	CESSNA				LINE	CHAFED	397	12/1/97
	208B0632	208B				26001017	LT/RT FUEL		98ZZZX156
*****	FORWARD FUEL LINE COMING FROM THE WING AS IT ENTERS RESERVOIR TANK COMPARTMENT. THERE ARE THREE AN3 BOLTS RETAINING A SEAL IN THE SIDE WALL OF COMPARTMENT. FORWARD BOLT CHAFING LINE, BOLT TURNED OUT TO BE AN3-4A, PARTS MANUAL CALLS FOR AN3-3A. BOTH SIDES OF AIRCRAFT REVEALED THE SAME DISCREPANCY. AIRCRAFT TOTAL TIME 396.5. HOURS.								
7602	4345X	CESSNA				CABLE	DEFECTIVE		11/8/97
	21058033	210B				S12203	MIXTURE		98ZZZX32
*****	UPON INSTALLATION, TWO NEW MIXTURE CABLES FROM CESSNA WERE FOUND DEFECTIVE IN THE VERNIER LOCK WHICH COULD CAUSE THE MIXTURE TO FLOAT OR JAM. ZERO HOURS ON PART.								

GENERAL AVIATION SIGNIFICANT OCCURRENCE REPORT (cont'd)

1/4/98 To 1/10/98 ISSUE: 98-02 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
2720	9739D	CESSNA				SUPPORT ASSY	CRACKED		12/26/97
	3370466	337A				151350014	RUDDER BAR		98ZZZX154
*****	PILOT COMPLAINED OF INCONSISTENT RUDDER TRIM INPUTS TO MAINTAIN COORDINATED FLIGHT AND 'FUNNY' RUDDER CONTROL INPUTS. INSPECTION REVEALED BOTH CENTER RUDDER BAR SUPPORTS CRACKED ALLOWING RUDDER BAR TO WANDER WHEREVER IT WANTED TO GO. AIRCRAFT HAS HISTORY OF LANDING ACCIDENTS WHEN REGISTERED IN A FOREIGN COUNTRY, BUT THIS IS A NEW DISCREPANCY WITH NO PREVIOUS CONTROL SYSTEM PROBLEMS.								
5540	4441T	CESSNA				BEARING	CORRODED	4461	12/17/97
	4410133	441				MS244624	RUDDER HINGE		98ZZZX147
*****	UPON REMOVAL OF RUDDER FOR REPAIR TO RUDDER TOP AND MIDDLE RUDDER NEEDLE, BEARING ASSYS FELL APART, I.E., NEEDLES FELL OUT. PRESENTLY, CESSNA HAS NO INSPECTION INTERVALS FOR THESE BEARINGS. THERE NEEDS TO BE SOME KIND OF INSPECTION INTERVAL IN WHICH THE BEARINGS ARE INSPECTED AND LUBRICATED AT A SPECIFIC TIME.								
6120	690HT	GULSTM			AIRESRCH	CAM ASSY	WORN		12/18/97
	11467	690B			8954812	8954752	PROP PITCH CNTRL	2138	98ZZZX109
*****	DURING ENGINE REPAIR RESULTING FROM CATASTROPHIC FAILURE OF PROPELLER GOVERNOR, DISSASSEMBLY OF PROPELLER PITCH CONTROL REVEALED SEVERE WEAR OF CAM SLOT AND PIN ON SLEEVE ASSY 869647-5. THERE IS LITTLE DOUBT THAT THIS ASSY WOULD HAVE FAILED LONG BEFORE SCHEDULED INSPECTION AT 3,600 HOURS. FAILURE OF THIS ASSY WILL RESULT IN LOSS OF PROPELLER CONTROL.								
6122	690HT	GULSTM			WOODWARD	GOVERNOR	FAILED		12/18/97
	11467	690B				8954908	PROPELLER	2138	98ZZZX112
*****	BETA LIGHT FLICKERED IN-FLIGHT. NO OTHER DISCREPANCIES ON NEXT DEPARTURE DURING TAXI OPERATION . PROPELLER WENT TOWARD COURSE PITCH UNCOMMANDED. ITT WENT TO RED LINE, PILOT SHUT ENGINE DOWN. INTERNAL FAILURE OF PROP GOV RESULTED IN METAL EXITING THE PROP GOV THRU OIL PASSAGES. CLOGGED NTS CHECK VALVE WHICH ELIMINATED OIL SUPPLY TO NEGATIVE SIDE OF TORQUE SENSOR. PLUGGED ADAPTER 3101708 ELIMINATING OIL SUPPLY TO POSITIVE SIDE OF TORQUE SENSOR, PLUGGED TURBINE BEARING OIL JET, CONTAMINATED FEATHER VALVE WHICH COMPLETELY DISABLED IT MAKING IT IMPOSSIBLE FOR NTS SYSTEM TO FUNCTION AND PROP COULD NOT BE FEATHERED MANUALLY.								
7603	71329	LUSCOM				CONTROL	FAILED		11/24/97
	2756	8A					THROTTLE		98ZZZX36
*****	LOSS OF ENGINE THROTTLE CONTROL CONTRIBUTED TO A FORCED LANDING AND SUBSEQUENT LOSS OF DIRECTIONAL CONTROL. INVESTIGATION DISCLOSED A CRACK IN THE RIGID THROTTLE CONTROL CONDUIT ALLOWING THE FLEXIBLE CONDUIT TO SEPARATE FROM THE FIXED CONDUIT HOUSING. RECOMMEND CLOSE INSPECTION OF THIS AREA AT THE 100-HOUR ANNUAL INSPECTION.								
2820	78987	MOONEY				LINE	CHAFED	2600	12/1/97
	2021	M20C					GASCOLATOR		98ZZZX152
*****	DURING ANNUAL INSPECTION, FUEL LINE WAS FOUND CHAFED NEARLY THROUGH AT HALF-WAY POINT. CHAFING CAUSED BY CARBURETOR HEAT CONTROL CABLE WHICH PASSES CLOSE TO THIS LINE WHERE IT GOES THROUGH THE FIREWALL. AREA IS VERY DIFFICULT TO INSPECT REQUIRING A MIRROR AND FLASHLIGHT. CHAFING HAD BEEN OCCURRING FOR SOME TIME. FUEL LINE WAS REMOVED, REPLACED, AND ANTI-CHAFE MATERIAL APPLIED TO CARBURETOR HEAT CONTROL CABLE.								
7820	8452P	PIPER				MUFFLER	CRACKED		12/6/97
	2627	PA24400				2448401	RT SIDE	624	98ZZZX39
*****	RIGHT MUFFLER FAILED CAUSING CARBON MONOXIDE TO ENTER CABIN. PILOT BECAME INCAPACITATED. AIRCRAFT FLEW FOR 1.9 HOURS UNTIL FUEL EXHAUSTION, LANDED IN HAYFIELD. PILOT RECEIVED MINOR INJURIES. AIRCRAFT WAS DESTROYED. ACCIDENT NR CHI 98LA055.								
2436	2819A	PIPER			ELECTROSYS	REGULATOR	SHORTED	5	12/9/97
	287990468	PA28181				VR371	ALTERNATOR		98ZZZX46
*****	ACFT EXPERIENCED OVERVOLTAGE CONDITION THAT CAUSED SYSTEMS THAT WERE TURNED ON TO FAIL, AND ALL RADIOS TO PRODUCE HEAVY SMOKE. REGULATOR TEAR-DOWN REVEALED LARGE RESISTOR FOUND INSIDE UNIT UNATTACHED. IT APPEARS RESISTOR WAS NOT PROPERLY ATTACHED TO C/B. IF ACFT WAS OPERATING IN IFR CONDITIONS, IT COULD HAVE BEEN AN EASY FATAL. FOUND PMA HOLDER OF VOLTAGE REGULATOR, ELECTROSYSTEMS, CALLS FOR GROUND TO BE ATTACHED DIRECTLY TO ALTERNATOR. PIPER CALLS OUT GROUND BE ATTACHED TO REGULATOR. ELECTROSYSTEMS REP STATED GROUND MUST BE MADE AT ALTERNATOR. IT IS UNKNOWN IF GROUNDING INCONSISTENCY COULD HAVE PREVENTED FAILURE. INSPECTOR RECOMMENDS THESE VOLTAGE REGULATORS BE INSPECTED FOR POOR SOLDER CONNECTIONS.								

***** DENOTES SIGNIFICANT OCCURRENCE

GENERAL AVIATION SIGNIFICANT OCCURRENCE REPORT (cont'd)

1/4/98 To 1/10/98 ISSUE: 98-02 ZAC-327

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3211	33138	PIPER				ATTACH BOLT	BROKEN		11/20/97
	287525161	PA28140					LT MLG		98ZZZX97
*****	WHILE PERFORMING SB 1006, NOTED LOWER ATTACH BOLTS OF THE LT MLG STRUT WERE CORRODED AND ONE BROKEN OFF AT THE HEAD (INSIDE). THIS IS THE SECOND SUCH OCCURRENCE FOUND ON TWO AIRCRAFT, AND THE DEFECT WAS IN THE LEFT MLG IN BOTH CASES. THE BOLTS (UPPER AND LOWER) WERE CORRODED. IN BOTH CASES, THEY WERE BROKEN INSIDE THE WING NEXT TO THE SPAR CAP AREA. (IN THE FIRST CASE, 2 UPPER BOLTS WERE ALSO BROKEN). THIS WAS HARD TO DETECT FROM THE OUTSIDE.								
3230	36458	PIPER				SPRING	FAILED		11/10/97
	28R7837279	PA28R201				6716800	NLG STRUT		98ZZZX110
*****	WHILE IN-FLT, PILOT REPORTED LOUD BANG. WHEN LANDING GEAR SELECTED, NLG WOULD NOT DOWN AND LOCK. UPON LANDING, NLG RETRACTED. NLG DID NOT LOCK DUE TO INNER SPRING BREAKING. WHEN THE INNER SPRING BROKE AT UPPER HOOK END, THIS BROKEN END CAUGHT OUTER SPRING COIL 2/3 OF THE LENGTH OF THE SPRING JAMMING OUTER SPRING AND CAUSING IT TO REMAIN AT A LENGTH OF 11 INCHES INSTEAD OF A CLOSED LENGTH OF 8 INCHES. THIS CAUSED OUTER SPRING TO BEND INTO A V-SHAPE PREVENTING OUTER SPRING FROM PULLING NLG TO A DOWN AND LOCKED POSITION. SUBMITTER STATED INNER SPRING BREAKING AND BENDING OUTER SPRING IS A UNIQUE SITUATION. SUBMITTER SUGGESTED A REPLACEMENT TIME IN HRS OR CALENDAR TIME.								
5711	8368H	PIPER				SPAR	CORRODED	5560	12/12/97
	28R8118062	PA28RT201					WING FUEL AREA		98ZZZX8
*****	COMPLIED WITH MANDATORY SB 1006 DURING ANNUAL INSPECTION. FOUND AND REPAIRED MINOR FUEL LEAKS AND SURFACE CORROSION IN WING SPAR AND WHEELWELL AREAS. REPAIRED LEAK, CLEANED AND TREATED CORROSION AND PAINTED AREA WITH CHEMICAL RESISTANT EPOXY ZINC CHROMATE PRIMER. SUBMITTER SUGGESTS C/W THIS BULLETIN AS SOON AS POSSIBLE ON ALL AFFECTED AIRCRAFT. SHOULD BE MADE AN AD NOTE.								
6114		PIPER	LYC	HARTZL		HUB BACK PLATE	CRACKED	7	2/27/97
		PA31	TIO540A2B	HCE3YR2	CA4393308	1654	PROP		CA970318004
*****	(CAN) THIS IS THE 4TH BACK PLATE FROM CANAWEST TO BREAK SINCE THE HUB WAS REPLACED. WESTERN PROP HAS INSPECTED THE PROP HUB ON TWO SEPARATE OCCASIONS SINCE THEY REPLACED THE HUB AND ARE UNABLE TO FIND ANY FAULT. TOTAL TIME ON NEW STYLE HUB IS 136.0 HOURS. TIME OF FOLLOWING FAILURES ARE: 1ST FAILURE OF SPINNER AND BACKPLATE WAS AT 34.0 HOURS. THE 2ND AT 104.0 HOURS. THE 3RD AT 129 HOURS AND THE 4TH AT 136.0 HOURS.								
2150	57MR	PIPER				FAN	FAILED		12/11/97
	31T7620022	PA31T			5134900	460102	A/C CONDENSER		98ZZZX7
*****	DURING CRUISE FLIGHT, PILOTS NOTICED SPARKS EMITTING FROM RT AFT NACELLE AT AIR CONDITIONING CONDENSER AIR SCOOP. RT GENERATOR WAS SHUT OFF, BUT SPARKS CONTINUED. DECISION WAS MADE TO SHUT DOWN RT ENGINE AND PROBLEM SUBSIDED. AIRCRAFT HAD UNEVENTFUL LANDING. AN INVESTIGATION REVEALED AIR CONDITIONER CONDENSER IMPELLER FAN SEPARATED FROM CONDENSER FAN MOTOR SHAFT AND CHAFED A GENERATOR WIRE FROM TERMINAL 'C' TO RT STARTER SOLENOID CAUSING THE FAN BLADES TO ARC ON GENERATOR WIRE.								
3233	CGHJL	SKRSKY				ACTUATOR	FAILED	19088	11/24/97
B8FR	760214	S76A			S76719441000	1944L200	NLG DOWNLOCK	80	98ZZZX87
*****	NOSE LANDING GEAR RETRACT ACTUATOR FAILED TO LOCK IN THE COMPRESSED POSITION (GEAR DOWN) CAUSING THE AIRCRAFT NLG TO COLLAPSE (MINOR DAMAGE TO AIRFRAME) WITH NO REPORTED INJURIES. ACTUATOR NEW 1981 AND PERFORMED PER DESIGN UNTIL REMOVAL 1997 FOR LEAKING. UNIT RESEALED BY AN OUTSIDE CONCERN (NOT BFG) AND INCIDENT OCCURRED SHORTLY THEREAFTER.								
5753	79Z	SOCATA				CARRIER	CRACKED	789	11/28/97
CB5Y	19	TBM700				T700A5755063101	FLAP BEARING		98ZZZX17
*****	WHILE CARRYING OUT A 100-HOUR REPETITIVE INSPECTION IAW DGAC AD 94-110, AND SB 70-048-57, IT WAS NOTED THAT ALL 4 FLAP BEARING CARRIAGES WERE CRACKED. THE CRACKS WERE NOT LOCATED IN THE INSPECTION AREAS SHOWN IN THE SB 70-048-57, BUT WERE LOCATED IN THE WEBS. ALL 4 FLAP BEARING CARRIAGES WERE REPLACED WITH MODIFIED ITEMS BEFORE FURTHER FLIGHT.								

(End of GENERAL AVIATION SIGNIFICANT OCCURRENCE REPORT)

FEDERAL AVIATION ADMINISTRATION
SIGNIFICANT OCCURRENCE REPORT INDEX

Showing Specific Part Numbers and Aircraft Model by Year

FOR THE PERIOD OF: 1/4/98 To 1/10/98

<u>PART NUMBER</u>			<u>YEAR</u>											
<u>PART NAME</u>	<u>ACFT MODEL</u>	<u>TOTAL</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>
1054200113														
FITTING	76	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 1054200113 - - - - -		1	-	-	-	-	-	-	-	-	-	-	-	1
151350014														
SUPPORT ASSY	337A	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 151350014 - - - - -		1	-	-	-	-	-	-	-	-	-	-	-	1
1654														
HUB BACK PLATE	PA31	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 1654 - - - - -		1	-	-	-	-	-	-	-	-	-	-	-	1
1944L200														
ACTUATOR	S76A	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 1944L200 - - - - -		1	-	-	-	-	-	-	-	-	-	-	-	1
2448401														
MUFFLER	PA24400	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 2448401 - - - - -		1	-	-	-	-	-	-	-	-	-	-	-	1
2524054														
SERVO	LONG EZ	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 2524054 - - - - -		1	-	-	-	-	-	-	-	-	-	-	-	1
26001017														
LINE	208B	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 26001017 - - - - -		1	-	-	-	-	-	-	-	-	-	-	-	1
2719008001														
ACT, PITCH TRIM	SA227AC	1	-	-	-	-	-	1	-	-	-	-	-	-
ACTUATOR	SA227AC	2	-	-	-	-	-	1	1	-	-	-	-	-
TOTAL of # 2719008001 - - - - -		3	-	-	-	-	-	2	1	-	-	-	-	-
293548														
BELLOWS	47G3B	1	-	-	-	-	-	-	-	-	-	-	-	1

FAA SIGNIFICANT OCCURRENCE REPORT INDEX 1/4/98 To 1/10/98 (cont'd)

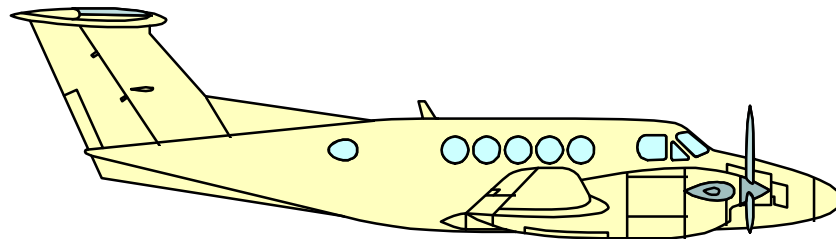
<u>PART NUMBER</u>		<u>YEAR</u>												
<u>PART NAME</u>	<u>ACFT MODEL</u>	<u>TOTAL</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>
TOTAL of # 293548 -----		1	-	-	-	-	-	-	-	-	-	-	-	1
460102														
FAN	PA31T	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 460102 -----		1	-	-	-	-	-	-	-	-	-	-	-	1
6082T17G01														
TURBINE	340B	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 6082T17G01 -----		1	-	-	-	-	-	-	-	-	-	-	-	1
6716800														
SPRING	PA28R200	1	-	-	-	-	-	-	1	-	-	-	-	-
	PA28R201	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 6716800 -----		2	-	-	-	-	-	-	1	-	-	-	-	1
785000														
SHOCK MOUNT	unknown	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 785000 -----		1	-	-	-	-	-	-	-	-	-	-	-	1
8210260														
GOVERNOR	B100	1	-	-	-	-	-	-	-	-	-	-	-	1
	SA226AT	1	-	-	-	-	-	-	-	-	-	-	1	-
PROP GOVERNOR	SA226TC	1	-	-	-	-	-	-	-	1	-	-	-	-
TOTAL of # 8210260 -----		3	-	-	-	-	-	-	-	1	-	-	1	1
8336102														
OXYGEN UNIT	G1159A	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 8336102 -----		1	-	-	-	-	-	-	-	-	-	-	-	1
8954752														
CAM	690A	1	-	-	-	1	-	-	-	-	-	-	-	-
CAM ASSY	690B	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 8954752 -----		2	-	-	-	1	-	-	-	-	-	-	-	1
8954908														
GOVERNOR	690B	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 8954908 -----		1	-	-	-	-	-	-	-	-	-	-	-	1

FAA SIGNIFICANT OCCURRENCE REPORT INDEX 1/4/98 To 1/10/98 (cont'd)

<u>PART NUMBER</u>		<u>YEAR</u>													
<u>PART NAME</u>	<u>ACFT MODEL</u>	<u>TOTAL</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	
<hr/>															
MS244624															
BEARING	180K	1	-	-	-	1	-	-	-	-	-	-	-	-	
	208B	1	-	-	-	-	-	-	-	-	-	-	1	-	
	441	1	-	-	-	-	-	-	-	-	-	-	-	1	
BEARINGS	441	1	-	-	-	-	-	-	-	-	-	-	-	1	
TOTAL of # MS244624 - - - - -		4	-	-	-	1	-	-	-	-	-	-	1	2	
<hr/>															
NAS35860900															
PUSH ROD	35A	1	-	-	-	-	-	-	-	-	-	-	-	1	
TUBE	35A	1	-	-	-	-	-	-	-	-	-	-	1	-	
TOTAL of # NAS35860900 - - - - -		2	-	-	-	-	-	-	-	-	-	-	1	1	
<hr/>															
S12203															
CABLE	210B	1	-	-	-	-	-	-	-	-	-	-	-	1	
TOTAL of # S12203 - - - - -		1	-	-	-	-	-	-	-	-	-	-	-	1	
<hr/>															
T700A5755063101															
CARRIER	TBM700	1	-	-	-	-	-	-	-	-	-	-	-	1	
TOTAL of # T700A5755063101 - - - - -		1	-	-	-	-	-	-	-	-	-	-	-	1	
<hr/>															
VR371															
REGULATOR	PA28181	1	-	-	-	-	-	-	-	-	-	-	-	1	
TOTAL of # VR371 - - - - -		1	-	-	-	-	-	-	-	-	-	-	-	1	
<hr/>															
TOTAL for ALL (31) PART NUMBERS: - - - -		32	-	-	-	2	-	2	2	1	-	-	3	22	
<hr/>															
END OF SIGNIFICANT OCCURRENCE REPORT INDEX															



DOMESTIC SERVICE DIFFICULTY REPORT



DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT**1/4/98 - 1/10/98 ISSUE: 98-02 ZAC-327**

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
7931	239PT 597	AMTR NORTHMAN2+2				SWITCH K3PS4020	LEAK OIL PRESSURE	149	11/1/97 98ZZZX10
OIL PRESSURE SWITCH USED TO TURN ON FLIGHT TIME RECORDER ('HOBBS" METER) BEGAN TO LEAK OIL FROM ONE ELECTRICAL TERMINAL. A FEW DROPS OF OIL WERE NOTICED WHILE PRE-FLIGHTING FOR A 2-1/2 HOUR RETURN FLIGHT. AFTER RETURNING, THERE WAS A LARGE OIL LEAK. ENGINE WAS 3 QUARTS LOW. TESTING SWITCH INDICATES LARGE OIL LEAK AT ELECTRIC TERMINAL.									
2721	540FT 2107	AMTR GLASAIRIII				SWITCH	STUCK RUDDER TRIM		11/16/97 97ZZZX5135
*****	RUDDER TRIM ROCKER SWITCH STUCK IN LEFT POSITION CAUSING FULL LEFT RUDDER TRIM DURING TAKEOFF ROLL. TAKEOFF ABORTED. AFTER MAXIMUM APPLICATION OF BRAKES, BRAKE LINE FAILED AND SUBSEQUENT BRAKE FIRE. SWITCH FAILURE WAS ABLE TO BE DUPLICATED APPROXIMATELY 1 OUT OF 10 ACTUATIONS OF SWITCH.								
5711 NI2R	117ME BA638	BEECH H18				SPAR	CORRODED RT WS 32		10/3/97 98ZZZX30
CORROSION REVEALED ON FRONT SPAR LT WS 32, WS 46, AND WS 81 AND RT WS 32.									
5711 NI2R	117ME BA638	BEECH H18				SPAR	CORRODED LT WS 32,46,81		10/3/97 98ZZZX29
CORROSION REVEALED ON FRONT SPAR LT WS 32, WS 46, AND WS 81 AND RT WS 32. REF: AD 75-27-09 R2 AND AMDT 39-3878.									
5711 NI2R	445DM AF152	BEECH TC45G				SPAR	CORRODED LT WS 32 THRU 81		10/3/97 98ZZZX33
CORROSION FOUND ON FRONT SPART, LT WING STATIONS 32, 46, 57, 60, 62, 64, AND 81, AND RT WING STATION 32. REF: AD75-27-09 R2 AND AMDT 39-3878.									
5711 NI2R	445DM AF152	BEECH TC45G				SPAR	CORRODED RT WS 32		10/3/97 98ZZZX34
CORROSION FOUND ON FRONT SPAR, LT WING STATIONS 32, 46, 57, 60, 62, 64, AND 81, AND RT WING STATION 32. REF: AD75-27-09 R2 AND AMDT 39-3878.									
2931 LX5R	981LL BB602	BEECH 200BEECH				GAUGE	FAILED HYD ACCUM IND	392	12/11/97 98ZZZX21
THIS GAUGE IS PART OF STC SA 4378WP AVIADESIGN, INC., HYDRAULIC LANDING GEAR RETRACTION SYSTEM. WITH ZERO PRESSURE IN ACCUMULATOR, THIS GAUGE WAS STILL SHOWING 500 P.S.I.G. FOR INDICATION. SUBMITTER RECOMMENDED A BETTER QUALITY GAUGE BE USED IN SYSTEM.									
3230 MZ4R	202AJ BB511	BEECH 200BEECH		FAFNIR		BEARING KP16BS	FROZEN MLG TORQ TUBE	10900	12/15/97 98ZZZX125
INVESTIGATION OF LANDING GEAR RETRACT MECHANISM REVEALED SQUEELING NOISE IN AREA OF TORQUE TUBE UNIVERSAL JOINT JUST OUTSIDE FUSELAGE ON RIGHT SIDE. THE KP16BS BEARING WAS FOUND FROZEN/RUSTED IN ITS SUPPORT PLATE WHILE THE SHAFT ADAPTER PN 101-810021-9, SPUN ON THE BEARINGS NON-BEARING SURFACE. A NEW BEARING AND ADAPTER WERE INSTALLED AND THE AIRCRAFT RETURNED TO SERVICE.									
3230 LX5R	981LL BB602	BEECH 200BEECH		GARKENYON		RESTRICTOR VALVE 92467	FAILED HYDRAULIC MLG	6236	12/11/97 98ZZZX23
THIS UNIT IS PART OF STC SA4378WP AVIADESIGN, INC., HYDRAULIC LANDING GEAR SYSTEM. FOUND INTERNAL SCREEN BROKEN OFF.									
3230 LX5R	981LL BB602	BEECH 200BEECH				DRAW BRACE	CORRODED MLG RT		12/5/97 98ZZZX22
THIS AIRCRAFT IS EQUIPPED WITH AVIADESIGN INC., HYDRAULIC LANDING GEAR SYSTEM. NO DOWN AND LOCKED INDICATION ON RIGHT MAIN LANDING GEAR. SUSPECT CAUSE: FOUND CORROSION ON DRAW BRACE ASSEMBLY PIVOT BOLTS CREATING BINDING SITUATION AND NOT ALLOWING LOCKING MECHANISM TO LOCK COMPLETELY. SUBMITTER RECOMMENDED IN ADDITION TO BEECHCRAFT'S LANDING GEAR LUBRICATION REQUIREMENTS, RECOMMEND DRAW BRACE BOLTS BE REMOVED, INSPECTED, AND LUBRICATED AT AVIADESIGN, INC. RECOMMENDED GEAR INSPECTION INTERNALLY.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT (cont'd)

1/4/98 To 1/10/98 ISSUE: 98-02 ZAC-327

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3510	63791 BB1100	BEECH B200				TUBE ASSY 1015601401	LEAK OXYGEN SYSTEM	6533	12/3/97 98ZZZX13
OXYGEN SYSTEM LEAK. INSPECTION FOUND B-NUT CRACKED AT AFT BULKHEAD ATTACHMENT (3 PLACES). FURTHER INSPECTION REVEALED B-NUT AT T-FITTING ATTACHMENT CRACKED IN 2 PLACES.									
2810	66514 E1522	BEECH A36				FLUSH VENT 4149200223	BLOCKED RT FUEL TANK	2600	11/10/97 98ZZZX139
PILOT REPORTED A SUDDEN LOSS OF ENGINE POWER RESULTING IN AN OFF-AIRPORT LANDING. ON SITE EXAMINATION REVEALED NO OBVIOUS DEFECTS. THE ENGINE WAS RE-STARTED, AND RAN FLAWLESSLY. THE PILOT TOOK OFF AND RETURNED TO BASE WITHOUT FURTHER INCIDENT. UPON DETAILED EXAMINATION OF FUEL SYSTEM, THE RT FUEL TANK FLUSH VENT WAS FOUND BLOCKED BY WHAT APPEARED TO BE AN INSECT NEST. A SIMILAR LOSS OF POWER HAD BEEN EXPERIENCED TWICE BEFORE IN PREVIOUS YEARS WITH THE SAME FINDINGS.									
7602 EBTR	12CM TC300	BEECH 95A55				CABLE 5038901021	FAILED ENGINE MIXTURE	57	10/4/97 98ZZZX116
MIXTURE CABLE FAILED ON SHUT DOWN AFTER FLIGHT. NO PREVIOUS INDICATION OF PROBLEM. INSPECTION SHOWED UNDER SHEATH WELD BROKE THAT SECURES SOLID END TO CABLE PORTION. CANNOT INSPECT HERE DUE TO SHEATH COVERING. NEW SAME PART NUMBER INSTALLED.									
5740	341D P397	BEECH B60				FITTING 60110000	DAMAGED LT/RT WING		12/12/97 98ZZZX88
WHILE C/W WING BOLT REPLACEMENT AND WING INSPECTION, FOUND LOWER AFT WING FITTINGS ON BOTH WINGS WITH COMPRESSION MARKS. BEECHCRAFT FIELD SERVICE CONTACTED PER MM INSTRUCTIONS. SPECIAL TOOLING AVAILABLE TO RESURFACE FITTING FACE. SUBMITTER SUGGESTED OWNERS CONFORM TO WING BOLT INSPECTION/REPLACEMENT PER MM INTERVALS.									
2140	6046U ME195	BEECH 76				SOLENOID 83D512	FAILED HEATER FUEL	120	12/13/97 98ZZZX149
COMPLAINT OF OVERHEAT AND SHUT DOWN OF HEATER DURING GROUND OPERATION. INVESTIGATION OF HEATER OPERATION SHOWED HEATER NOT SHUTTING DOWN WITH TEMP CONTROL SWITCH. FOUND FUEL SOLENOID NOT CLOSING. OVERTEMP SENSOR WOULD THEN POP. FOUND BLACK SEALANT INSIDE SOLENOID. FACTORY (JANAERO DEVICES) NOTIFIED IMMEDIATELY. THIS SOLENOID WAS ON NEW HEATER WITH 120. 3 HOURS SINCE NEW.									
5741	24KK ME149	BEECH 76				FITTING 1054200113	CRACKED LT WING ATTACH	6447	8/25/97 98ZZZX42
INSPECTION FOUND LEFT WING ATTACH FITTING CRACKED.									
5741	6049L ME202	BEECH 76				FITTING 1054200113	CRACKED LT WING ATTACH	10063	10/19/97 98ZZZX51
*****	INSPECTION FOUND LEFT WING ATTACH FITTING CRACKED.								
5741	5424M ME31	BEECH 76				FITTING 1054200113	CRACKED RT WING ATTACH	2283	8/31/97 98ZZZX49
INSPECTION FOUND LEFT AND RIGHT WING ATTACH FITTINGS CRACKED.									
5741	5424M ME31	BEECH 76				FITTING 1054200113	CRACKED LT WING ATTACH	2283	8/31/97 98ZZZX48
INSPECTION FOUND LEFT AND RIGHT WING ATTACH FITTINGS CRACKED.									
5741	272BA ME90	BEECH 76				FITTING 1054200114	CRACKED RT WING ATTACH		9/9/97 98ZZZX43
INSPECTION FOUND LEFT AND RIGHT WING ATTACH FITTINGS CRACKED.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT (cont'd)

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5741	272BA	BEECH				FITTING	CRACKED		9/9/97
	ME90	76				1054200113	LT WING ATTACH		98ZZZX44
*****	INSPECTION FOUND LEFT AND RIGHT WING ATTACH FITTINGS CRACKED.								
5312	111KF	BEECH				BULKHEAD	CRACKED	2946	12/12/97
	TC633	95B55				9544001337	BS 271.92		98ZZZX81
	DURING ANNUAL INSPECTION, FOUND CRACKING IN TAIL AT FS 271.92 BULKHEAD. REPAIRED PER BEECHCRAFT SI 990. AREA VERY HARD TO INSPECT. SI 990 ALSO HAS INSPECTION CRITERIA. CRACKING FOUND ON 3 AIRCRAFT AT THIS STATION WHILE C/W SI 990. SUBMITTER SUGGESTED BULLETIN AND AD NOTE ON THIS INSPECTION MAKING IT MANDATORY.								
5312	311EH	CESSNA				BULKHEAD	CRACKED	5246	12/17/97
DVPR	17269158	172N				05132833	LT DOOR POST		98ZZZX96
	INSPECTION REVEALED A CRACK IN THE LEFT HAND DOOR POST AFT SECTION AT THE LOWER DOOR HINGE LOCATION. CRACK STARTS AT THE AFT SCREW HOLE AND PROGRESSES IN BOTH DIRECTIONS. CRACK IS APPROXIMATELY 1.3750 INCHES LONG.								
7120	2770Q	CESSNA				MOUNT BOLT	DETACHED		12/1/97
	18257970	182K					ENGINE		98ZZZX45
*****	DURING OIL FILTER CHANGE, A REAR LORD MOUNT BOLT WAS FOUND DETACHED. OTHER 3 BOLTS WERE NOT TO TORQUE. ENGINE INSTALLED IN 1988 AND IT IS SUSPECT BOLTS NOT PROPERLY TORQUED.								
2434	61423	CESSNA			FORD	ALTERNATOR	FAILED		12/17/97
	18504180	A185F				318	DC SYSTEM		98ZZZX50
	ALTERNATOR FAILED. FOUND BRUSHES COMPLETELY WORN OUT IN JUST 608 HOURS. SUBMITTER STATED THIS IS THE SECOND ALTERNATOR FAILURE WITHIN 700 HOURS.								
2820	410GV	CESSNA				LINE	CHAFED	397	12/1/97
	208B0632	208B				26001017	LT/RT FUEL		98ZZZX156
*****	FORWARD FUEL LINE COMING FROM THE WING AS IT ENTERS RESERVOIR TANK COMPARTMENT. THERE ARE THREE AN3 BOLTS RETAINING A SEAL IN THE SIDE WALL OF COMPARTMENT. FORWARD BOLT CHAFING LINE, BOLT TURNED OUT TO BE AN3-4A, PARTS MANUAL CALLS FOR AN3-3A. BOTH SIDES OF AIRCRAFT REVEALED THE SAME DISCREPANCY. AIRCRAFT TOTAL TIME 396.5. HOURS.								
7602	4345X	CESSNA				CABLE	DEFECTIVE		11/8/97
	21058033	210B				S12203	MIXTURE		98ZZZX32
*****	UPON INSTALLATION, TWO NEW MIXTURE CABLES FROM CESSNA WERE FOUND DEFECTIVE IN THE VERNIER LOCK WHICH COULD CAUSE THE MIXTURE TO FLOAT OR JAM. ZERO HOURS ON PART.								
2720	9739D	CESSNA				SUPPORT ASSY	CRACKED		12/26/97
	3370466	337A				151350014	RUDDER BAR		98ZZZX154
*****	PILOT COMPLAINED OF INCONSISTENT RUDDER TRIM INPUTS TO MAINTAIN COORDINATED FLIGHT AND 'FUNNY' RUDDER CONTROL INPUTS. INSPECTION REVEALED BOTH CENTER RUDDER BAR SUPPORTS CRACKED ALLOWING RUDDER BAR TO WANDER WHEREVER IT WANTED TO GO. AIRCRAFT HAS HISTORY OF LANDING ACCIDENTS WHEN REGISTERED IN A FOREIGN COUNTRY, BUT THIS IS A NEW DISCREPANCY WITH NO PREVIOUS CONTROL SYSTEM PROBLEMS.								
2720	9739D	CESSNA				SUPPORT ASSY	CRACKED		12/26/97
	3370466	337A				151350013	RUDDER BAR		98ZZZX153
	PILOT COMPLAINED OF INCONSISTENT RUDDER TRIM INPUTS TO MAINTAIN COORDINATED FLIGHT AND 'FUNNY' RUDDER CONTROL INPUTS. INSPECTION REVEALED BOTH CENTER RUDDER BAR SUPPORTS CRACKED ALLOWING RUDDER BAR TO WANDER WHEREVER IT WANTED TO GO. AIRCRAFT HAS HISTORY OF LANDING ACCIDENTS WHEN REGISTERED IN A FOREIGN COUNTRY, BUT THIS IS A NEW DISCREPANCY WITH NO PREVIOUS CONTROL SYSTEM PROBLEMS.								
3242	9739D	CESSNA			PARKERHANFIN	PLATE	FAILED	3800	12/26/97
	3370466	337A				7515	LT BRAKE		98ZZZX140
	UPON LANDING, LEFT BRAKE CALIPER TORQUE PLATE BROKE AT UPPER REAR BOLT ATTACH HOLE CAUSING BRAKE CALIPER TO SHIFT INTO THE INSIDE OF THE BRAKE DISC CAUSING THE LEFT WHEEL TO LOCK UP. THE TORQUE PLATE IS DRILLED OVERSIZED AND THEN BUSHED DOWN TO ACCEPT AXLE ATTACH BOLT. THE OVERSIZED HOLE REDUCES THE HOLE EDGE DISTANCE CONSIDERABLY.								

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT (cont'd)

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3213	406GA 402C0329	CESSNA 402C				AXLE 51411022	CRACKED RT MLG	14350	12/3/97 98ZZZX47
	PILOT HAD DIFFICULTY DURING TAXI, RT WHEEL BINDING. MAINTENANCE FOUND BRAKE DISC CONTACTING LOWER BARREL OF STRUT. FOUND AXLE CRACKED UPON TIRE AND WHEEL REMOVAL.								
8120 FMMA	1965G 421B0859	CESSNA 421B	CONT GTSIO520H		GARRTT	TURBOCHARER 4086109001	LEAKING SEAL	1764	12/18/97 98ZZZX95
	OIL SEAL IN TURBOCHARGER FAILED CAUSING SMOKE TO ENTER CABIN. TURBOCHARGER, TOTAL TIME, 1,764.0 HOURS.								
5540	84LJ 4410084	CESSNA 441				BEARINGS MS244624	FAILED RUDDER HINGE	4268	12/17/97 98ZZZX158
	UPON REMOVAL FOR STRIP AND PAINT, TOP AND MIDDLE RUDDER NEEDLE BEARING ASSYS FELL APART, I.E., NEEDLES FELL OUT. UNITS WERE RUSTY ALSO. SUBMITTER STATED PRESENTLY THERE IS NO INSPECTION INTERVALS FOR THESE BEARINGS. AIRCRAFT HAS 4,268 HOURS TT AT TIME OF OCCURRENCE.								
5540	4441T 4410133	CESSNA 441				BEARING MS244624	CORRODED RUDDER HINGE	4461	12/17/97 98ZZZX147
*****	UPON REMOVAL OF RUDDER FOR REPAIR TO RUDDER TOP AND MIDDLE RUDDER NEEDLE, BEARING ASSYS FELL APART, I.E., NEEDLES FELL OUT. PRESENTLY, CESSNA HAS NO INSPECTION INTERVALS FOR THESE BEARINGS. THERE NEEDS TO BE SOME KIND OF INSPECTION INTERVAL IN WHICH THE BEARINGS ARE INSPECTED AND LUBRICATED AT A SPECIFIC TIME.								
5347	84EA 550484	CESSNA 550				SEAT RAIL CM32031	WORN COPILOT RT OTBD	6514	11/1/97 98ZZZX3
	DURING PHASE 5 INSPECTION, FOUND HOLES WORN TO LIMITS AT CO-PILOT'S RIGHT SEAT RAIL HATCH. SPLICED IN NEW SECTION OF SEAT RAIL IAW CESSNA 550 SRM FIGURE 801.								
5540	674JM S5500127	CESSNA S550				RUDDER	LIGHTNING STRIKE TIP CAP	3137	12/12/97 98ZZZX93
	AIRCRAFT ENTERED SHOP FOR ROUTINE MAINTENANCE AND DURING PRELIM INSPECTION NOTICED RUDDER TIP CAP BURNED AND LOOSE. TEAR DOWN INSP OF RUDDER SHOWED INTERNAL SIGNS OF OVERHEATING. OWNER QUESTIONED AND WAS DETERMINED THAT AT SOME PREVIOUS TIME, ACFT HAD A LIGHTNING STRIKE AND HAD NEVER BEEN INSPECTED PER ATA CHAPTER 5 MM. RUDDER HAD TO BE REBUILT AND DURING INSPECTION, OTHER AREAS OF OF LIGHTNING STRIKES HAD TO BE REPAIRED. SUBMITTER SUGGESTED PILOTS HAVE ACFT INSPECTED AS SOON AS POSSIBLE AFTER LIGHTNING STRIKES.								
6120	690HT 11467	GULSTM 690B			AIRESRCH 8954812	CAM ASSY 8954752	WORN PROP PITCH CNTRL		12/18/97 98ZZZX109
*****	DURING ENGINE REPAIR RESULTING FROM CATASTROPHIC FAILURE OF PROPELLER GOVERNOR, DISSASSEMBLY OF PROPELLER PITCH CONTROL REVEALED SEVERE WEAR OF CAM SLOT AND PIN ON SLEEVE ASSY 869647-5. THERE IS LITTLE DOUBT THAT THIS ASSY WOULD HAVE FAILED LONG BEFORE SCHEDULED INSPECTION AT 3,600 HOURS. FAILURE OF THIS ASSY WILL RESULT IN LOSS OF PROPELLER CONTROL.								
7603	71329 2756	LUSCOM 8A				CONTROL	FAILED THROTTLE		11/24/97 98ZZZX36
*****	LOSS OF ENGINE THROTTLE CONTROL CONTRIBUTED TO A FORCED LANDING AND SUBSEQUENT LOSS OF DIRECTIONAL CONTROL. INVESTIGATION DISCLOSED A CRACK IN THE RIGID THROTTLE CONTROL CONDUIT ALLOWING THE FLEXIBLE CONDUIT TO SEPARATE FROM THE FIXED CONDUIT HOUSING. RECOMMEND CLOSE INSPECTION OF THIS AREA AT THE 100-HOUR ANNUAL INSPECTION.								
2430	9164Z 270213	MOONEY M20M				CABLE	DEFECTIVE BATTERY	321	12/10/97 98ZZZX40
	PILOT REPORTED INTERMITTENT STARTING, VOLTAGE FLUCTUATION, AND LOW BATTERY CHARGE. INSPECTION FOUND NR 1 AND NR 2 BATTERY GROUND STRAPS AT AIRFRAME ATTACHMENTS TO HAVE HIGH RESISTANCE AT GROUNDING POINT. CLEANED AREAS AND INSTALLED HARDWARE REFERENCING MOONEY SI M20-97. SYSTEMS CHECKED OK. IT APPEARS THE AIRFRAME PRIMER COATING WAS ACTING AS AN INSULATOR. WHEN REMOVED, THE SYSTEMS OPERATED CORRECTLY.								

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT (cont'd)

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2820	78987	MOONEY				LINE	CHAFED	2600	12/1/97
	2021	M20C					GASCOLATOR		98ZZZX152
*****	DURING ANNUAL INSPECTION, FUEL LINE WAS FOUND CHAFED NEARLY THROUGH AT HALF-WAY POINT. CHAFING CAUSED BY CARBURETOR HEAT CONTROL CABLE WHICH PASSES CLOSE TO THIS LINE WHERE IT GOES THROUGH THE FIREWALL. AREA IS VERY DIFFICULT TO INSPECT REQUIRING A MIRROR AND FLASHLIGHT. CHAFING HAD BEEN OCCURRING FOR SOME TIME. FUEL LINE WAS REMOVED, REPLACED, AND ANTI-CHAFE MATERIAL APPLIED TO CARBURETOR HEAT CONTROL CABLE.								
7922		MOONEY				VALVE	FAILED		12/1/97
		M20E				53E22144	THERMO BYPASS		98ZZZX150
	RECEIVED PN 53E22144 AND INSTALLED, OIL TEMPERATURE PROBLEM. REMOVED AND HAD TRUED PER SB 1316. FURTHER INSPECTION SHOWED NUT IMPROPERLY CRIMPED ON NEW VALVE, SEAT COULD NOT SIT SQUARELY ON NUT, NO THREADS PROTRUDED OUT THE TOP OF THE CRIMPED NUT. REPLACED WITH NEW VALVE THAT HAD THREADS OUT THE TOP OF THE NUT.								
7820	8452P	PIPER				MUFFLER	CRACKED		12/6/97
	2627	PA24400				2448401	RT SIDE	624	98ZZZX39
*****	RIGHT MUFFLER FAILED CAUSING CARBON MONOXIDE TO ENTER CABIN. PILOT BECAME INCAPACITATED. AIRCRAFT FLEW FOR 1.9 HOURS UNTIL FUEL EXHAUSTION, LANDED IN HAYFIELD. PILOT RECEIVED MINOR INJURIES. AIRCRAFT WAS DESTROYED. ACCIDENT NR CHI 98LA055.								
2436	2819A	PIPER			ELECTROSYS	REGULATOR	SHORTED	5	12/9/97
	287990468	PA28181				VR371	ALTERNATOR		98ZZZX46
*****	ACFT EXPERIENCED OVERVOLTAGE CONDITION THAT CAUSED SYSTEMS THAT WERE TURNED ON TO FAIL, AND ALL RADIOS TO PRODUCE HEAVY SMOKE. REGULATOR TEAR-DOWN REVEALED LARGE RESISTOR FOUND INSIDE UNIT UNATTACHED. IT APPEARS RESISTOR WAS NOT PROPERLY ATTACHED TO C/B. IF ACFT WAS OPERATING IN IFR CONDITIONS, IT COULD HAVE BEEN AN EASY FATAL. FOUND PMA HOLDER OF VOLTAGE REGULATOR, ELECTROSYSTEMS, CALLS FOR GROUND TO BE ATTACHED DIRECTLY TO ALTERNATOR. PIPER CALLS OUT GROUND BE ATTACHED TO REGULATOR. ELECTROSYSTEMS REP STATED GROUND MUST BE MADE AT ALTERNATOR. IT IS UNKNOWN IF GROUNDING INCONSISTENCY COULD HAVE PREVENTED FAILURE. INSPECTOR RECOMMENDS THESE VOLTAGE REGULATORS BE INSPECTED FOR POOR SOLDER CONNECTIONS.								
2710	4511F	PIPER				BOLT	WRONG PART		12/19/97
	287790037	PA28181					AILERON		98ZZZX113
	DURING A CUSTOMER REQUESTED AILERON RIGGING CHECK, DISCOVERED THE AFT BOLTS ON BOTH AILERON BELLCRANKS WERE CHAFING ON THE AILERON CONTROL ROD AS AILERONS WERE MOVED. ALL 4 BOLTS CONNECTING THE AILERON CABLES TO THE BELLCRANKS WERE AN23-12. AN EXAMINATION OF THE CURRENT PARTS MANUAL REVEALED THE CORRECT BOLT TO BE INSTALLED SHOULD BE A PIPER PN 402-669 (NAS1103-7D BOLT). THERE IS A STRENGTH DIFFERENCE BETWEEN THESE TWO BOLTS AS WELL AS A LENGTH DIFFERENCE. THE AN23-12 IS .0625 INCH LONGER THAN THE NAS1103-7D.								
3211	33138	PIPER				ATTACH BOLT	BROKEN		11/20/97
	287525161	PA28140					LT MLG		98ZZZX97
*****	WHILE PERFORMING SB 1006, NOTED LOWER ATTACH BOLTS OF THE LT MLG STRUT WERE CORRODED AND ONE BROKEN OFF AT THE HEAD (INSIDE). THIS IS THE SECOND SUCH OCCURRENCE FOUND ON TWO AIRCRAFT, AND THE DEFECT WAS IN THE LEFT MLG IN BOTH CASES. THE BOLTS (UPPER AND LOWER) WERE CORRODED. IN BOTH CASES, THEY WERE BROKEN INSIDE THE WING NEXT TO THE SPAR CAP AREA. (IN THE FIRST CASE, 2 UPPER BOLTS WERE ALSO BROKEN). THIS WAS HARD TO DETECT FROM THE OUTSIDE.								
3230	36458	PIPER				SPRING	FAILED		11/10/97
	28R7837279	PA28R201				6716800	NLG STRUT		98ZZZX110
*****	WHILE IN-FLT, PILOT REPORTED LOUD BANG. WHEN LANDING GEAR SELECTED, NLG WOULD NOT DOWN AND LOCK. UPON LANDING, NLG RETRACTED. NLG DID NOT LOCK DUE TO INNER SPRING BREAKING. WHEN THE INNER SPRING BROKE AT UPPER HOOK END, THIS BROKEN END CAUGHT OUTER SPRING COIL 2/3 OF THE LENGTH OF THE SPRING JAMMING OUTER SPRING AND CAUSING IT TO REMAIN AT A LENGTH OF 11 INCHES INSTEAD OF A CLOSED LENGTH OF 8 INCHES. THIS CAUSED OUTER SPRING TO BEND INTO A V-SHAPE PREVENTING OUTER SPRING FROM PULLING NLG TO A DOWN AND LOCKED POSITION. SUBMITTER STATED INNER SPRING BREAKING AND BENDING OUTER SPRING IS A UNIQUE SITUATION. SUBMITTER SUGGESTED A REPLACEMENT TIME IN HRS OR CALENDAR TIME.								
3233	2251M	PIPER				ACTUATOR	BROKEN		9/10/97
	28P7931001	PA28RT201T				357972	NLG		98ZZZX111
	NOSE GEAR ACTUATOR BROKEN AT AFT ATTACH HOLE (BOLT HOLE). COULD HAVE BROKEN WHEN NOSE GEAR WAS FORCED DOWN AFTER ACCIDENT.								

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT (cont'd)

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5711	8368H	PIPER				SPAR	CORRODED	5560	12/12/97
	28R8118062	PA28RT201					WING FUEL AREA		98ZZZX8
*****	COMPLIED WITH MANDATORY SB 1006 DURING ANNUAL INSPECTION. FOUND AND REPAIRED MINOR FUEL LEAKS AND SURFACE CORROSION IN WING SPAR AND WHEELWELL AREAS. REPAIRED LEAK, CLEANED AND TREATED CORROSION AND PAINTED AREA WITH CHEMICAL RESISTANT EPOXY ZINC CHROMATE PRIMER. SUBMITTER SUGGESTS C/W THIS BULLETIN AS SOON AS POSSIBLE ON ALL AFFECTED AIRCRAFT. SHOULD BE MADE AN AD NOTE.								
7922	8215N	PIPER				VALVE	DEFECTIVE		12/12/97
	2825419	PA28140				75944	THERMO BYPASS		98ZZZX37
	LYCOMING SB 518C APPLIES. FOUND NUT LOOSE. REPLACED VERNATHERM. SUSPECT CAUSE: AGE AND WEAR.								
2913	35816	PIPER				PUMP	SHEARED	440	12/22/97
	318052091	PA31350				1213HBG310A	RT HYDRAULIC		98ZZZX146
	PILOT REPORTED TO MAINTENANCE THAT THE LANDING GEAR SLOW TO CYCLE. HYDRAULIC PUMP CHECK PERFORMED. RIGHT PUMP INOPERABLE. UPON REMOVAL, FOUND RIGHT ENGINE DRIVEN HYDRAULIC PUMP SHAFT SHEARED. OPENED PUMP ASSY FOR VISUAL INSPECTION AND FOUND ONE OF THE TWO CHECK VALVE/RESTRICTORS MISSING FROM ITS PLACE. FOUND PART OF MISSING CHECK VALVE/RESTRICTOR IN AIRCRAFT HYDRAULIC FILTER. BELIEVE THIS PART TO HAVE DISLODGED AND WENT THROUGH PUMP GEARS AND JAMMED THEM, 'SHEARING SHAFT'.								
3230	36BM	PIPER				ROD ASSY	SEIZED	3209	12/10/97
	318252008	PA31350				4194902	LT MLG		98ZZZX151
	CUSTOMER REPORTED THE LT MLG DOWNLOCK LIGHT DID NOT ILLUMINATE WHEN THE LANDING GEAR WAS EXTENDED. AIRCRAFT LANDED WITHOUT INCIDENT. INSPECTION REVEALED THE PN 41949-02 LANDING GEAR LOCK ROD ASSY WAS SEIZED DUE TO LACK OF LUBRICATION PREVENTING THE DOWNLOCK HOOK FROM FULLY ENGAGING. SUBMITTER STATED THE MM CALLS FOR A 100-HOUR LUBE. A MORE FREQUENT LUBRICATION MIGHT BE ADVISABLE IN WET/CORROSIVE ENVIRONMENTS.								
3260	2KC	PIPER				LIGHT ASSY	FAILED		12/5/97
BSYA	317952217	PA31350				8011030332504	LT MLG DOWNLOCK		98ZZZX144
	LEFT LANDING GEAR NOT SHOWING DOWN AND LOCK INTO CMH. JACKED AIRCRAFT, FOUND DOWN AND LOCK LIGHT SOCKET DEFECTIVE. REMOVED AND REPLACED SOCKET ASSY. OPS CHECKS GOOD.								
2150	57MR	PIPER				FAN	FAILED		12/11/97
	31T7620022	PA31T			5134900	460102	A/C CONDENSER		98ZZZX7
*****	DURING CRUISE FLIGHT, PILOTS NOTICED SPARKS EMITTING FROM RT AFT NACELLE AT AIR CONDITIONING CONDENSER AIR SCOOP. RT GENERATOR WAS SHUT OFF, BUT SPARKS CONTINUED. DECISION WAS MADE TO SHUT DOWN RT ENGINE AND PROBLEM SUBSIDED. AIRCRAFT HAD UNEVENTFUL LANDING. AN INVESTIGATION REVEALED AIR CONDITIONER CONDENSER IMPELLER FAN SEPARATED FROM CONDENSER FAN MOTOR SHAFT AND CHAFED A GENERATOR WIRE FROM TERMINAL 'C' TO RT STARTER SOLENOID CAUSING THE FAN BLADES TO ARC ON GENERATOR WIRE.								
3246	515BA	PIPER				WHEEL	BROKEN	3600	12/18/97
	31T8120044	PA31T				40106	LT MLG OUTBOARD		98ZZZX101
	POST-FLIGHT REVEALED BROKEN OUTBOARD WHEEL HALF ON LEFT MAIN.								
3222	239A	PIPER				STRUT ASSY	LOOSE	202	4/1/97
EWCR	3246022	PA32301				6705002	NLG		98ZZZX145
	PLUG IN BOTTOM OF TUBE NOT SECURED BY BOLT THROUGH TUBE AND LANDING GEAR FORK. AIRCRAFT WAS INVOLVED IN A GEAR UP LANDING APPROXIMATELY 8 MONTHS AGO.								
5210	4100L	PIPER				AUXILIARY LOCK	FAILED	5686	12/3/97
	428001061	PA42			5661705	4756400	CABIN DOOR		98ZZZX31
	JUST PRIOR TO VR, DOOR HANDLE ROTATED AND DISENGAGED PINS. PILOT ABORTED TAKEOFF, CLOSED DOOR, AND TAXIED BACK TO PARKING. INITIAL INSPECTION REVEALED THAT AUXILIARY LOCK DID NOT ENGAGE.								

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT (cont'd)

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5753 CB5Y	79Z 19	SOCATA TBM700				CARRIER T700A5755060000	CRACKED FLAP BEARING	789	11/28/97 98ZZZX14
WHILE CARRYING OUT A 100-HOUR REPETITIVE INSPECTION IAW DGAC AD 94-110, AND SB 70-048-57, IT WAS NOTED THAT ALL 4 FLAP BEARING CARRIAGES WERE CRACKED. THE CRACKS WERE NOT LOCATED IN THE INSPECTION AREAS SHOWN IN THE SB 70-048-57, BUT WERE LOCATED IN THE WEBS. ALL 4 FLAP BEARING CARRIAGES WERE REPLACED WITH MODIFIED ITEMS BEFORE FURTHER FLIGHT.									
5753 CB5Y	79Z 19	SOCATA TBM700				CARRIER T700A5755060101	CRACKED FLAP BEARING	789	11/28/97 98ZZZX15
WHILE CARRYING OUT A 100-HOUR REPETITIVE INSPECTION IAW DGAC AD 94-110, AND SB 70-048-57, IT WAS NOTED THAT ALL 4 FLAP BEARING CARRIAGES WERE CRACKED. THE CRACKS WERE NOT LOCATED IN THE INSPECTION AREAS SHOWN IN THE SB 70-048-57, BUT WERE LOCTED IN THE WEBS. ALL 4 FLAP BEARING CARRIAGES WERE REPLACED WITH MODIFIED ITEMS BEFORE FURTHER FLIGHT.									
5753 CB5Y	79Z 19	SOCATA TBM700				CARRIER T700A5755063101	CRACKED FLAP BEARING	789	11/28/97 98ZZZX17
*****	WHILE CARRYING OUT A 100-HOUR REPETITIVE INSPECTION IAW DGAC AD 94-110, AND SB 70-048-57, IT WAS NOTED THAT ALL 4 FLAP BEARING CARRIAGES WERE CRACKED. THE CRACKS WERE NOT LOCATED IN THE INSPECTION AREAS SHOWN IN THE SB 70-048-57, BUT WERE LOCATED IN THE WEBS. ALL 4 FLAP BEARING CARRIAGES WERE REPLACED WITH MODIFIED ITEMS BEFORE FURTHER FLIGHT.								
5753 CB5Y	79Z 19	SOCATA TBM700				CARRIER T700A5755063100	CRACKED FLAP BEARING	789	11/28/97 98ZZZX16
WHILE CARRYING OUT A 100-HOUR REPETITIVE INSPECTION IAW DGAC AD 94-110, AND SB 70-048-57, IT WAS NOTED THAT ALL 4 FLAP BEARING CARRIAGES WERE CRACKED. THE CRACKS WERE NOT LOCATED IN THE INSPECTION AREAS SHOWN IN THE SB 70-048-57, BUT WERE LOCTED IN THE WEBS. ALL 4 FLAP BEARING CARRIAGES WERE REPLACED WITH MODIFIED ITEMS BEFORE FURTHER FLIGHT.									

(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT)

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS**1/4/98 - 1/10/98 ISSUE: 98-02 ZAC-327**

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
2432 HEEA	2761N 45277	BELL 206L1				BATTERY RG222	FAILED DC SYS		12/31/97 HEEA0012398
BATTERY WILL NOT START AIRCRAFT. WILL NOT TURN ENGINE MORE THAN 8% N1. REPLACED WITH A NEW BATTERY.									
2432 HEEA	2761N 45277	BELL 206L1				BATTERY RG222	FAILED DC SYS		12/31/97 HEEA0012397
BATTERY WEAK STARTING. WILL NOT CRANK ENGINE ABOVE 5%. BATTERY LASTED TWO DAYS AFTER INSTALLATION. REPLACED WITH A NEW BATTERY.									
2435 HEEA	7074W 52033	BELL 206L4				GENERATOR 23081018	FAILED START/GEN	14482	12/31/97 HEEA0012399
GENERATOR WOULD NOT COME ON LINE. REPLACED WITH SERVICEABLE GENERATOR.									
2823 HEEA	2269A 3608	BELL 206B3				VALVE 206063640107	FAILED FUEL SYS		12/17/97 HEEA0012352
VALVE STAYS OPEN INTERMITTENTLY.									
3452 HEEA	2272J 3620	BELL 206B3			KT76	TRANSPONDER 066106200	FAILED COCKPIT		12/31/97 HEEA0012393
NO INDICATION OF INTERROGATION. PERFORMED PRELIMINARY INSPECTION. FOUND REPLY LIGHT DIM, REPLACED V301 PHOTOCCELL, REPAIRED. ADJUSTED UNIT TO SPECS. BENCH CHECK GOOD.									
3452 HEEA	129MR 51129	BELL 206L3			KT76	TRANSPONDER 066106200	FAILED COCKPIT		12/31/97 HEEA0012394
TRANSPONDER INOPERATIVE. PERFORMED PRELIMINARY INSPECTION. FOUND Q402 LOOSE IN UNIT. RESOLDERED Q402. UNIT NOW MAKING NOISE. TROUBLESHOT; SWAPPED OUT T401. REPLACED Q415, Q401, Q402, C401, C402, C403, C410, CR401, CR402. REPAIRED. UNIT STILL NOT RECEIVING. FOUND Q422BAD. REPLACED Q422. REPAIRED. ADJUSTED TO SPECS. BENCH CHECK GOOD.									
3457 HEEA	2275Y 3626	BELL 206B3			MAGELLAN	SKYNAV 5000 0845000000	INTERMITTENT COCKPIT GPS		12/17/97 HEEA0012368
GPS OPERATED INTERMITTENTLY.									
3457 HEEA	2777D 45299	BELL 206L1			MAGELLAN	SKYNAV 5000 0845000000	FAILED COCKPIT GPS		12/17/97 HEEA0012367
GPS WILL NOT UPDATE POSITION.									
5320 HEEA	2270G 3610	BELL 206B3				TUB 206031100353S	MIS MANUFACTURED FUEL CELL		12/30/97 HEEA0012392
FUEL CELL TUB TOO WIDE AT APPROXIMATELY WATER LINE 50.45 UP. FROM BUTT LINE .000 FUEL CELL MEASURES .250 ON L/H AND R/H; SIDES TOO WIDE TOTAL .500.									
6210 KUVR	166BH 45661	BELL 206L1				BLADE 206015001107	CRACKED M/R	1579	12/12/97 98ZZZX86
DURING 100-HOUR INSPECTION, NOTICED PATCH ON BLADE LIFTING, REMOVED PATCH. FOUND 10 INCH CRACK RUNNING CHORD-WISE FROM REPAIR. THIS BLADE CAME FROM MANUFACTURER WITH PATCH AS NEW.									
6320 HEEA	10778 45391	BELL 206L1				TRANSMISSION 206040004111	DEFECTIVE M/R		12/29/97 HEEA0012389
TRANSMISSION WILL NOT FIT ON AIRCRAFT. (COULD NOT INSTALL TRANS. RESTRAINT WITH HOLE IN JOURNAL BEARING POSITION AS FAR OUT AS POSSIBLE STILL COULD NOT INSTALL RESTRAINT. TRIED A NEW RESTRAINT, AND HAD SAME PROBLEM. TRIED STOP MOUNTS FROM OLD TRANSMISSION - STILL SAME PROBLEM)									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS (cont'd)

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6720 HEEA	7074W 52033	BELL 206L4				ROD ASSY 206011725001	FAILED T/R CONT	3722	12/31/97 HEEA0012395
ROD ASSY BEARING ENDS ARE COMING APART. REPLACED WITH SERVICEABLE ROD ASSEMBLY.									
6720 HEEA	7077F 52038	BELL 206L4				ROD ASSY 206011725001	FAILED T/R	2338	12/31/97 HEEA0012396
ROD ASSY BEARING ENDS ARE COMING APART. REPLACED WITH SERVICEABLE ROD ASSEMBLY.									
7230 HEEA	406EH 45183	BELL 206L1	ALLSN 250C28B		23033191	SCROLL 6898960	MIS MANUFACTURED ENGINE		12/22/97 HEEA0012382
RECEIVING INSPECTION REVEALED: AIR TUBE SOCKET ID NOT MACHINED. INSTALLED AN OVERHAULED DALLAS AIRMOTIVE SCROLL.									
7250 HEEA	3107N 51512	BELL 206L3	ALLSN 250C30P		23053349	COUPLING 23032345	WORN ENG N1	539	12/18/97 HEEA0012376
ENGINE REMOVED DUE TO TURBINE OVERHAUL. UPON INSPECTION OF TURBINE PARTS NOTED: INTERNAL SPLINES BELOW SERVICEABLE LIMITS ON N1 COUPLING (FAILED NO-GO GAUGE) INSTALLED A NEW N1 COUPLING.									
7314 HEEA	141BH 51303	BELL 206L3	ALLSN 250C20			FUEL PUMP 3881005	WORN ENGINE	16587	12/31/97 HEEA0012408
FUEL PUMP WORN DRIVE SHAFT SPLINES AND GEARS.									
7320 HEEA	210PH 51541	BELL 206L3	ALLSN 250C30P			BELLOWS 2543598	DEFECTIVE ENGINE CONTROL		12/17/97 HEEA0012373
ACCELERATION BELLOWS DEFECTIVE. INOPERATIVE. SCRAPPED PART. REPLACED WITH SERVICEABLE PART.									
7320 HEEA	210PH 51541	BELL 206L3	ALLSN 250C30P			METERING VALVES 2537739	UNBONDED ENGINE		12/17/97 HEEA0012372
METERING VALVE SLEEVE ASSEMBLY UNBONDED. SCRAPPED PART. REPLACED WITH SERVICEABLE PART.									
7722 HEEA	20898 45721	BELL 206L1				INDICATOR 206075680107	STICKS ENG TOT		12/17/97 HEEA0012353
INDICATOR NEEDLE STICKS THROUGH SCALE INTERMITTENTLY.									
7722 HEEA	2246Q 45752	BELL 206L1				INDICATOR 206375007103	STICKS ENG TOT		12/17/97 HEEA0012355
TOT INDICATOR NEEDLE STICKS.									
7722 HEEA	205FC 51130	BELL 206L3				INDICATOR 206075188005	FAILED ENG TOT		12/17/97 HEEA0012354
ENG TOT INDICATOR READS 4 UNITS HIGH									
7810 HEEA	3207Q 51540	BELL 206L3	ALLSN 250C30P		23035128	EXHAUST COLLECTO 23032325	CRACKED ENGINE		12/17/97 HEEA0012374
ENGINE REMOVED DUE TO NR3 & NR4 WHEEL CYCLES. UPON INSPECTION OF TURBINE PARTS NOTED: COATING FLAKING FROM EXHAUST COLLECTOR LAB SEAL FLANGE AND CRACKED BEYOND SERVICEABLE LIMITS. INSTALLED A STANDARD AERO OVERHAULED EXHAUST COLLECTOR.									
2340 HEEA	27805 31106	BELL 212				INTERPHONE BOX A3016W	FAILED CO PILOT		12/17/97 HEEA0012362
CO-PILOT CANNOT RECEIVE ON ANY RADIO OR THE INTERCOM, BUT CAN TRANSMIT BUT WITHOUT ANY SIDETONE. REPLACED WITH SERVICEABLE PART.									

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DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS (cont'd)

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2370 HEEA	59806 28140	BELL 214ST				CVR 9806020023	SHORTED COCKPIT	317	12/17/97 HEEA0012360
CVR DOES NOT COME ON. POWER WAS SHORTED TO GROUND.									
2435 HEEA	8045T 28101	BELL 214ST				STARTER 214060056103	FAILED ENGINE	1300	12/18/97 HEEA0012380
STARTED WILL NOT TURN. INSPECTED BY ACCESSORY OVERHAUL SHOP AND FOUND ARMATURE WAS FROZEN AND WOULD NOT TURN.									
2435 HEEA	3897N 28106	BELL 214ST				STARTER 214060056103	FAILED ENGINE	842	12/18/97 HEEA0012379
HARD START ENGINE, STARTER DRAGS.									
3450 HEEA	59806 28140	BELL 214ST				CONTROL BOX 071121004	FAILED COCKPIT		12/17/97 HEEA0012364
CONTROL BOX CANNOT SELECT NUMBERS. PERFORMED PRELIMINARY INSPECTION. FOUND NUMBERS NOT CHANGING WHEN SELECTOR KNOB IS TURNED, CLEANED WAFER SWITCHES. REPAIRED. ALSO FOUND PHOTOCCELL V101 BAD. REPLACED. REPAIRED. BENCH CHECK GOOD.									
3452 HEEA	6957Y 28139	BELL 214ST				CONTROL 071119218	FAILED TRANSPONDER		12/31/97 HEEA0012404
TRANSPONDER CONTROL HAS SEVERAL LED'S INTERMITTENT. PERFORMED PRELIMINARY INSPECTION. FOUND LED'S INTERMITTENT. REPLACED DS103 DISPLAY. REPAIRED. CLEANED WAFER SWITCHES. BENCH CHECK GOOD.									
3452 HEEA	59806 28140	BELL 214ST				TRANSPONDER 066107100	FAILED COCKPIT		12/31/97 HEEA0012413
TRANSPONDER FAILED. UPON DISASSEMBLING UNIT FOUND MODULATOR BOARD HAD A BURNT SECTION.									
3454 HEEA	3897N 28106	BELL 214ST			KDA692	NAV UNIT 071121701	FAILED COCKPIT		12/31/97 HEEA0012412
NAV UNIT KDA692 WON'T POINT TO STATIONS.									
6220 HEEA	59806 28140	BELL 214ST			214010100207	BEARING 214310002101	RUSTED M/R		12/31/97 HEEA0012414
BEARING FOUND RUSTY AND UNSERVICEABLE. SERIAL NUMBERS REMOVED ARE N0001 AND N0004.									
3212 HEEA	230UN 23009	BELL 230				SWITCH 222325023101	DEFECTIVE FLOAT		12/22/97 HEEA0012387
FLOAT SWITCH HAS LOOSE PARTS INSIDE.									
3450 HEEA	230UN 23009	BELL 230				CONTROL 071121627	CHIPPED COCKPIT NAV		12/17/97 HEEA0012365
PAINT CHIPPED. PERFORMED PRELIMINARY INSPECTION. FOUND PAINT ON FACEPLATE CHIPPED. REPLACED FACEPLATE P/N 088-1103-18. REPAIRED. BENCH CHECK GOOD.									
6220 HEEA	230UN 23009	BELL 230				BEARING 222310504101	SEPARATED M/R		12/15/97 HEEA0012348
BEARING SEPARATED.									
6420 HEEA	230UN 23009	BELL 230			222012701117	BEARING 222312753103	CRACKED T/R HEAD		12/15/97 HEEA0012351
BEARING CRACKED. SCRAPPED BEARINGS.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS (cont'd)

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2312 HEEA	403PH 53177	BELL 407				TRANSCEIVER 064105430	DEFECTIVE COCKPIT		12/31/97 HEEA0012405
NOT ALL DISPLAY NUMBERS ARE VISIBLE. REPLACED INTEGRATED CIRCUITS I505 AND I506. REPAIRED. FOUND AUDIBLE TONE WHEN CHECKING MODULATION PERCENTAGE WITHOUT KEYING TRANSMITTER. FOUND LEG OF TRANSISTOR Q119 TO JUST ABOUT BE BROKEN WHEN REMOVED FOR CHECKING. REPLACED TRANSISTOR Q119.REPAIRED. BENCH CHECK GOOD.									
3457 HEEA	403PH 53177	BELL 407				RECEIVER 13824120234	FAILED GPS	307	12/31/97 HEEA0012411
GPS RECEIVER CONTINUES TO READ "ANTENNA FAULT" AFTER BAD ANTENNA WAS REPLACED.									
5530 HEEA	467PH 53142	BELL 407				FIN ASSEMBLY 206020113229T	LOOSE STRINGER	56	12/31/97 HEEA0012417
FIN ASSY HAS LOOSE STRINGER.									
6220 GSIR	407AP 53020	BELL 407				FRAHM ASY 407010150101A	DEFECTIVE M/R HEAD	88	12/5/97 98ZZZX83
INSPECTION FOUND M/R FRAHM ASSY HAD LOOSE SPRINGS. REPLACED WITH NEW FRAHM FROM BELL HELICOPTER.									
6220 HEEA	57416 53070	BELL 407				HUB 407010100111	DEFECTIVE M/R CONE SEAT	1257	12/15/97 HEEA0012350
GRIPS AND LOWER CONE SEAT RETIRE. SCRAPPED PARTS.									
6230 HEEA	141MA 53016	BELL 407				MAST ASSY 407040011101	LEAKING M/R	1235	12/31/97 HEEA0012415
MAST ASSY SEAL LEAKING. REPAIRED BY PHI.									
6410 HEEA	57416 53070	BELL 407				BEARING 406312100101	CORRODED T/R BLADE	507	12/22/97 HEEA0012388
BEARING WORN AND CORRODED.									
2312 HEEA	2149S 36002	BELL 412				CONTROL 071121570	FAILED COMM NR 2		12/17/97 HEEA0012366
DISPLAY STAYS BRIGHT. PERFORMED PRELIMINARY INSPECTION. FOUND DISPLAY NOT DIMMING. REPLACED V101 PHOTOCCELL. REPAIRED. ALSO REPLACED INTERMITTENT TRANSFER SWITCH S102. REPAIRED. BENCH CHECK GOOD.									
2312 HEEA	21498 36003	BELL 412				COMM CONTROL 071121540	FAILED COCKPIT		12/31/97 HEEA0012402
COMM CONTROL DISPLAY SOMETIMES UNREADABLE. PERFORMED PRELIMINARY INSPECTION. REPLACED DISPLAY LENS. REPAIRED. ALSO REPLACED PHOTOCCELL LENS AND HEADER P201. CHECKED 28V LIGHTING. BENCH CHECK GOOD.									
2370 HEEA	2261D 33076	BELL 412				CVR 9806020023	SHORTED COCKPIT		12/31/97 HEEA0012410
CVR DOES NOT COME ON. POWER WAS SHORTED TO GROUND.									
2841 HEEA	3893P 33012	BELL 412				INDICATOR 393008047	FAILED FUEL QTY		12/31/97 HEEA0012400
UPON INSTALLATION OF INDICATOR, TURNED ON POWER AND INDICATOR IMMEDIATELY WENT TO ZERO AND STAYED. WOULD NOT COME OFF OF ZERO. REPLACED WITH SERVICEABLE INDICATOR.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS (cont'd)

1/4/98 To 1/10/98 ISSUE: 98-02 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
3421	108X	BELL				INDICATOR	FAILED		12/3/97
HEEA	33115	412				222375033103	COCKPIT ATTITUDE		HEEA0012187
ATTITUDE INDICATOR PRECESSES IN PITCH AND ROLL. TIME SINCE REPAIR 186:10.									
3457	1202T	BELL				RECEIVER	ERRATIC		12/17/97
HEEA	33112	412				81439000232	2101A GPS		HEEA0012370
TURNING KNOB GIVES ERRATIC READINGS.									
6210	107X	BELL				BLADE	DEFECTIVE	6113	12/31/97
HEEA	33113	412				412015300106	M/R		HEEA0012409
M/R BLADE HAS SKIN VOID ON THE UPPER SURFACE JUST TO THE OUTBOARD OF THE MIDSPAN TAB AT STATION 208".									
7323	22347	BELL				GOVERNOR	FAILED	7295	12/31/97
HEEA	36005	412				25249994	NR 1 ENG		HEEA0012401
NR1 ENGINE BEEP RANGE WENT HIGH AND TORQUE SPLIT. REPLACED WITH SERVICEABLE GOVERNOR.									
7322	47AH	BELL	LYC			BELLOWS	FAILED		10/28/97
	2645	47G3B	TVO435A1A		MA6AA	293548	CARB MIXTURE	1086	98ZZZX84
*****	HELICOPTER LOST ENGINE POWER IN-FLIGHT. DURING GROUND RUN TROUBLESHOOTING PROCESS, THE ENGINE WOULD NOT OPERATE ABOVE 1500 RPM. THE MARVEL SCHEBELER (MODEL MA-6AA, SN AH-1-383) CARBURETOR WAS BENCH TESTED BY THE NTSB AND WOULD ONLY PERFORM APPROXIMATELY 50 PERCENT CAPACITY. DURING CARBURETOR TEAR DOWN INSPECTION, FOUND PLASTIC RESIN ADHESIVE MISSING. THIS ADHESIVE LOCKS THE BELLOWS TO THE SHAFT ON THE AUTOMATIC MIXTURE CONTROL (PN 293-548). THIS ALLOWED THE BELLOWS TO MOVE DOWN THE SHAFT, THEREFORE, LIMITING FUEL OUTPUT.								
3444	137AE	BOLKMS				ALTIMETER	ERRATIC		12/17/97
HEEA	S851	BO105S				066106103	COCKPIT		HEEA0012361
ERRATIC RADAR ALTIMETER OPERATION.									
6210	8197X	BOLKMS				BLADE	SEPARATION	5388	12/17/97
HEEA	S808	BO105S				10515141	M/R		HEEA0012363
M/R BLADE HAS SEPARATION ON THE LEADING EDGE ABRASION STRIP WHICH IS BEYOND LIMITS.									
6410	81982	BOLKMS				BLADE	DEFECTIVE	1816	12/17/97
HEEA	S818	BO105S				10531980	T/R		HEEA0012358
BLADE S/N 032 ORANGE PAINT FLAKED EXPOSING RUBBER.									
7230	4573B	BOLKMS	ALLSN			SPLINE ADAPTER	WORN	375	12/18/97
HEEA	S673	BO105S	250C20B		6890550	23039791	COMPRESSOR		HEEA0012378
ENGINE REMOVED DUE TO CRACKED COMPRESSOR SCROLL AND VIBRATION. UPON INSPECTION OF COMPRESSOR PARTS NOTED: WORN BEYOND SERVICEABLE LIMITS ON SPLINE ADAPTER RETAINING RING GROOVE. INSTALLED A NEW SPLINE ADAPTER.									
7250	137AE	BOLKMS	ALLSN			COUPLING	WORN	516	12/18/97
HEEA	S851	BO105S	250C20B		6898735	6898977	ENG N1		HEEA0012377
ENGINE REMOVED DUE TO TURBINE INSPECTION. UPON INSPECTION OF TURBINE PARTS NOTED: STEP WEAR BEYOND SERVICEABLE LIMITS ON N1 COUPLING SPLINES (FAILED NO-GO GAUGE) INSTALLED A NEW N1 COUPLING.									
7261	131AE	BOLKMS	ALLSN			INTERNAL SUMP	MAKING METAL		1/2/98
HEEA	S787	BO105S	250C20B		6898735	6888547	ENGINE		HEEA0012419
ENGINE REMOVED DUE TO METAL IN OIL. UPON INSPECTION OF TURBINE PARTS NOTED: ERODED BEYOND SERVICEABLE LIMITS ON INTERNAL SUMP SEALS AND CRACKED.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS (cont'd)

1/4/98 To 1/10/98 ISSUE: 98-02 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
2211 R7MA	158BK 7058	BOLKMS BK117A3				COMPUTER 117884141	INOPERATIVE YAW CSAS	372	11/24/97 98ZZZX105
COMPUTER UNIT INOPERATIVE. REPLACED WITH USED UNIT, CORRECTED PROBLEM.									
6320 HEEA	7059J 7151	BOLKMS BK117B1			1171200501	BEARING 1171261001	CRACKED M/R GR BOX		12/15/97 HEEA0012346
BEARING CRACKED INNER RACE NEAR TANG.									
6410 R7MA	7060G 7173	BOLKMS BK117B1				BLADE 11731743	WORN TAIL ROTOR	721	11/22/97 98ZZZX103
TAIL ROTOR BLADE HAS PAINT PEELING OFF AND RUBBER COMPOUND IS WORN BEYOND SERVICEABLE LIMITS. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.									
6410 R7MA	7060G 7173	BOLKMS BK117B1				BLADE 11731743	WORN TAIL ROTOR	721	11/22/97 98ZZZX104
TAIL ROTOR BLADE HAS PAINT PEELING OFF AND RUBBER COMPOUND IS WORN BEYOND SERVICEABLE LIMITS. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.									
7250 R7MA	158BK 7058	BOLKMS BK117A3	LYC LTS101650B1			ROTOR ASSY 414129001	FAILED POWER TURBINE	1529	7/28/97 98ZZZX106
ROTOR ASSY FAILED SB LT101-72-10-0153, Q-ROTOR = 12.36 GMIN2. EXCESSIVE IBPT BLADE SHIFT. REPLACED WITH USED UNIT, CORRECTED PROBLEM. PART TOTAL CYCLES, 3,148.									
7250 R7MA	586BH 7129	BOLKMS BK117A4	LYC LTS101650B1			ROTOR ASSY 414129001	FAILED POWER TURBINE	1486 756	8/22/97 98ZZZX107
ROTOR ASSEMBLY FAILED SB LT101-72-10-0153. EXCESSIVE IBPT BLADE SHIFT, Q-ROTOR = 6.77 GMIN2. REPLACED WITH USED UNIT, CORRECTED PROBLEM. PART TOTAL CYCLES, 3,128.									
7310 HEEA	134AE 7237	BOLKMS BK117B1	LYC LTS101750B1			FUEL NOZZLE 430137601	LEAKING FUEL MANIFOLD	2246	12/31/97 HEEA0012407
AFTER LEAK CHECK PER SB LT101-73-10-0124, PART II A IT WAS DISCOVERED THAT THE FUEL MANIFOLD WAS LEAKING AT ONE OF THE FUEL NOZZLES WHERE THE RIDGED TUBE IS BRAZED TO THE NOZZLE.									
6220	524FB LN004	HUGHES 500N				HUB 369D21200	VIBRATION M/R	1769 70	11/12/97 98ZZZX85
ERRATIC TRACK AND BALANCE .89 IPS AT 11:00 TO .15 AT 9:00 CHANGES BY SHAKING COLLECTIVE GRIP LENGTH. ALSO, APPEARS TO CHANGE BY PULLING ON BLADES.									
6700		HUGHES 500N				BEARING 369A7301501	BINDING FLT CONT IDLER		11/12/97 98ZZZX24
IDLER BELLCRANK HAS BOTH PIVOT BEARINGS PRE-LOADED TO A POINT OF NO ROTATION. BINDING COULD CAUSE BOLT FAILURE. FOUND ON INCOMING ACCEPTANCE INSPECTION.									
6700		HUGHES 500N				BEARING 369A7301501	BINDING FLT CONT IDLER		11/12/97 98ZZZX25
IDLER BELLCRANK HAS BOTH PIVOT BEARINGS PRELOADED TO A POINT OF NO ROTATION. FOUND DURING INCOMING ACCEPTANCE INSPECTION.									
6700		HUGHES 500N				BEARING 369A7301501	BINDING FLT CONT IDLER		11/12/97 98ZZZX26
IDLER BELLCRANK HAS BOTH PIVOT BEARINGS PRELOADED TO A POINT OF NO ROTATION. FOUND ON INCOMING ACCEPTANCE INSPECTION.									
6700		HUGHES 500N				BEARING 369A7301501	BINDING FLT CONT IDLER		11/12/97 98ZZZX28
IDLER BELLCRANK FOUND TO HAVE BOTH PIVOT BEARINGS PRELOADED TO THE POINT OF NO ROTATION OF BEARING. FOUND ON INCOMING PARTS INSPECTION.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS (cont'd)

1/4/98 To 1/10/98 ISSUE: 98-02 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
6700		HUGHES 500N				BEARING 369A7301501	BINDING FLT CONT IDLER		11/12/97 98ZZZX27
IDLER BELLCRANK FOUND TO HAVE BOTH PIVOT BEARINGS PRELOADED TO A POINT OF NO ROTATION. FOUND ON ACCEPTANCE INSPECTION.									
7250 JYDR	178AC 64097	SKRSKY S64F	PWA JFTD12A5A		658199	CASE 657087	CRACKED AFT FLANGE	2205 705	12/9/97 98ZZZX68
WHILE INSTALLED, AFT FLANGE OF CASE SN 225 FRACTURED 360 DEGREES WITHIN THE FLANGE WELD JOINT. FRACTURING OF AFT FLANGE ASSY ELIMINATED THE AFT MOUNT FROM ENG SUPPORT. ENG FREE TO MOVE VERTICALLY, Laterally, AND FORE AND AFT, UNRESTRAINED BY AFT MOUNT. THIS MOTION CAUSED DAMAGE TO COMPRESSOR DIFFUSER CASE MOUNT LOCATIONS WHICH WERE DISCOVERED CRACKED SHORTLY AFTER REPLACEMENT OF FREE TURBINE ASSY. SUBMITTER STATED FAILURE OF AFT FLANGE WAS DUE TO AN IMPROPER REPAIR PERFORMED BY ANOTHER REPAIR STATION AND CONSISTED OF INCOMPLETE FUSION IN AN EB WELD, MISMATCH BETWEEN WELDED PARTS, AND UNDERCUT IN HAZ ACTING AS A STRESS RISER. DEFECTIVE BY MEANS OF IMPROPER ACCOMPLISHMENT OF APPROVED P & W REPAIR PROCESS.									
2121 HEEA	31219 760230	SKRSKY S76A				BLOWER 7650007901103	FAILED AIR BLOWER		12/31/97 HEEA0012403
BLOWER MOTOR WILL NOT TURN. REPLACED WITH SERVICEABLE BLOWER.									
3233 B8FR *****	CGHJL 760214	SKRSKY S76A			S76719441000	ACTUATOR 1944L200	FAILED NLG DOWNLOCK	19088 80	11/24/97 98ZZZX87
NOSE LANDING GEAR RETRACT ACTUATOR FAILED TO LOCK IN THE COMPRESSED POSITION (GEAR DOWN) CAUSING THE AIRCRAFT NLG TO COLLAPSE (MINOR DAMAGE TO AIRFRAME) WITH NO REPORTED INJURIES. ACTUATOR NEW 1981 AND PERFORMED PER DESIGN UNTIL REMOVAL 1997 FOR LEAKING. UNIT RESEALED BY AN OUTSIDE CONCERN (NOT BFG) AND INCIDENT OCCURRED SHORTLY THEREAFTER.									
3425 HEEA	4253S 760035	SKRSKY S76A				INDICATOR 1113025	FAILED COCKPIT HSI		12/31/97 HEEA0012406
HSI INDICATOR COURSE SET KNOB INOPERATIVE.									
3457 HEEA	1546K 760082	SKRSKY S76A				RECEIVER 81439000232	FAILED 2101A GPS		12/17/97 HEEA0012371
CDI NOT CENTERED. 2101A GPS RECEIVER MALFUNCTION									
7230 HEEA	706AE 760275	SKRSKY S76A	ALLSN 250C30S		23051643	GEARSHAFT 23056634	WORN SPUR ADAPTER	661	12/18/97 HEEA0012375
ENGINE REMOVED DUE TO TURBINE OVERHAUL AND COMPRESSOR N1 SHAFTING INSPECTION. UPON INSPECTION OF COMPRESSOR PARTS NOTED: STEP WEAR BEYOND SERVICEABLE LIMITS ON SPUR GEAR SHAFT SPLINES. INSTALLED A NEW SPUR GEARSHAFT.									
7240 HEEA	3122H 760233	SKRSKY S76A	ALLSN 250C30S		23035128	COMBUSTION LINER 6899081	CRACKED ENGINE		12/22/97 HEEA0012381
RECEIVING INSPECTION REVEALED: CRACKED BEYOND SERVICEABLE LIMITS ON COMB. LINER INNER SKIRT. INSTALLED A DALLAS AIRMOTIVE OVERHAULED COMB. LINER.									
3030 HEEA	6095S 2777	SNIAS AS350B2				PITOT HEAD 334941	FAILED TOTALIZER	2394	12/22/97 HEEA0012386
HEATED PITOT FAILED									
3457 HEEA	350BZ 2653	SNIAS AS350B2		MAGELLAN		SKYNAV 5000 0845000000	INTERMITTENT COCKPIT GPS		12/17/97 HEEA0012359
INTERMITTENTLY LOSES ITS SATELLITE SIGNALS AND DISPLAY WILL GO INTO FULL DIM.									
3457 HEEA	4000L 2873	SNIAS AS350B2			GARMIN INTL	GPS 150 0110005400	FAILED COCKPIT GPS		12/17/97 HEEA0012369
INTERNAL BATTERY DEAD.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS (cont'd)

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5310 HEEA	6095S 2777	SNIAS AS350B2				NOSE SECTION	CRACKED CABIN		12/15/97 HEEA0012349
REPAIR FIBERGLASS CRACKS IN CABIN NOSE SECTION. CORRECT PAINT FLAKING FROM FIBERGLASS OF CABIN NOSE SECTION REPAIRED BY PHI. PARTS AND LABOR WILL BE INVOICED...WO#9700618-99.									
6220 HEEA	6095S 2777	SNIAS AS350B2				FREQ ADAPTER ELT302301	SEPARATED M/R	4980	12/22/97 HEEA0012385
TOP AND BOTTOM PLATES SEPARATED. SERIAL NUMBERS REMOVED ARE 5470, 5473, AND 5468.									
6420 HEEA	60951 2771	SNIAS AS350B2				ROTOR SPIDER 350A33200405	BINDING T/R	708	12/15/97 HEEA0012347
GREASE LEAKAGE AND SUSPECTED BINDING.									
6720 HEEA	60951 2771	SNIAS AS350B2				ROD 350A33214501	WORN PITCH CONTROL	73	12/22/97 HEEA0012383
PITCH CONTROL ROD HAS WORN BEARING.									
7720 HEEA	6095S 2777	SNIAS AS350B2				PROBE 6401497000	FAILED TEMP	2424	12/22/97 HEEA0012384
TEMP PROBE WILL NOT TEST PROPERLY.									

(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS)

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - ENGINES**1/4/98 - 1/10/98 ISSUE: 98-02 ZAC-327**

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
7322	999TD	AMTR	LYC			SERVO	CORRODED		11/1/97
	1546	LONG EZ	IO360A1B6			2524054	FUEL INJECTION		98ZZZX58
*****	DURING FLIGHT, ACFT ENGINE LOST POWER FOLLOWING A ONE 'G' POSITIVE MANEUVER. INVESTIGATION FOUND FUEL INJECTION SERVO WAS HANGING UP. SUSPECT CORROSION AND LACK OF LUBE.								
8530	3046K	BEECH	CONT			VALVE	WORN	1107	12/10/97
NT2R	E2362	A36	IO550B			646226	NR 3 CYL EXHAUST		98ZZZX6
	CYLINDER NR 3 REMOVED DUE TO EXCESSIVE EXHAUST VALVE LEAKAGE DURING A COMPRESSION TEST. EXHAUST VALVE STEM WAS FOUND WORN .023 INCH AT TIP OF STEM TO ABOUT THE CENTER OF STEM. GUIDE WAS NOT WORN (NITRALOY). NR 2 CYLINDER WAS REMOVED FOR ANOTHER REASON AND THE EXHAUST VALVE CHECKED OK. NR 6 CYLINDER EXHAUST VALVE WAS REMOVED DUE TO EXCESSIVE WEAR AT 625.7 HOURS.								
8520	87SC	BEECH	CONT			BEARING	FAILED	800	12/8/97
	TE441	95C55	IO520C			635439	NR 2 MAIN		98ZZZX19
	ENGINE RPM FLUCTUATING IN-FLIGHT. PRECAUTIONARY ENGINE SHUT DOWN AND FEATHERING ACCOMPLISHED. AIRCRAFT LANDED WITHOUT INCIDENT. INVESTIGATION DISCLOSED THE STARTER ADAPTER FAILED DUE TO LACK OF OIL. THIS OCCURRED AFTER .5 HOURS OF OPERATION. DISASSEMBLY OF THE ENGINE DISCLOSED THAT NR 2 MAIN BEARING FAILED ALLOWING THE OIL PRESSURE TO DROP WELL BELOW THE MINIMUM PRESSURE REQUIRED TO LUBRICATE THE STARTER HOUSING, ADAPTER. PRIMARY FAILURE: NR 2 MAIN BEARING. SECONDARY FAILURE: STARTER ADAPTER HOUSING.								
8530	577W	BEECH	CONT			CYLINDER	FAILED	3	12/12/97
	TH375	58	IO520C			653454	ENGINE NR 6		98ZZZX148
	DURING A FLIGHT JUST AFTER TAKEOFF, PILOT REPORTED THE ENGINE PERIODICALLY LOST POWER AND VIBRATED. UPON LANDING, PILOT ALSO NOTICED A CONSIDERABLE AMOUNT OF OIL ON THE NACELLE. UPON INVESTIGATION, DISCOVERED THE NR 6 CYLINDER PUSH ROD WAS BENT AND PUSH ROD TUBE HAD BROKEN. AFTER CYLINDER REMOVAL, IT WAS DETERMINED A SCREW HAD BEEN INJECTED INTO THIS CYLINDER. GOOD HOUSEKEEPING PROCEDURES AND ACCOUNTABILITY OF HARDWARE DURING INSTALLATION WOULD REDUCE THE POSSIBILITY OF THIS IN THE FUTURE.								
7230	406EH	BELL	ALLSN			SCROLL	MIS MANUFACTURED		12/22/97
HEEA	45183	206L1	250C28B		23033191	6898960	ENGINE		HEEA0012382
	RECEIVING INSPECTION REVEALED: AIR TUBE SOCKET ID NOT MACHINED. INSTALLED AN OVERHAULED DALLAS AIRMOTIVE SCROLL.								
7250	3107N	BELL	ALLSN			COUPLING	WORN	539	12/18/97
HEEA	51512	206L3	250C30P		23053349	23032345	ENG N1		HEEA0012376
	ENGINE REMOVED DUE TO TURBINE OVERHAUL. UPON INSPECTION OF TURBINE PARTS NOTED: INTERNAL SPLINES BELOW SERVICEABLE LIMITS ON N1 COUPLING (FAILED NO-GO GAUGE) INSTALLED A NEW N1 COUPLING.								
7314	141BH	BELL	ALLSN			FUEL PUMP	WORN	16587	12/31/97
HEEA	51303	206L3	250C20			3881005	ENGINE		HEEA0012408
	FUEL PUMP WORN DRIVE SHAFT SPLINES AND GEARS.								
7320	210PH	BELL	ALLSN			METERING VALVES	UNBONDED		12/17/97
HEEA	51541	206L3	250C30P			2537739	ENGINE		HEEA0012372
	METERING VALVE SLEEVE ASSEMBLY UNBONDED. SCRAPPED PART. REPLACED WITH SERVICEABLE PART.								
7320	210PH	BELL	ALLSN			BELLOWS	DEFECTIVE		12/17/97
HEEA	51541	206L3	250C30P			2543598	ENGINE CONTROL		HEEA0012373
	ACCELERATION BELLOWS DEFECTIVE. INOPERATIVE. SCRAPPED PART. REPLACED WITH SERVICEABLE PART.								
7323	22347	BELL				GOVERNOR	FAILED	7295	12/31/97
HEEA	36005	412				25249994	NR 1 ENG		HEEA0012401
	NR1 ENGINE BEEP RANGE WENT HIGH AND TORQUE SPLIT. REPLACED WITH SERVICEABLE GOVERNOR.								

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - ENGINES (cont'd)

1/4/98 To 1/10/98 ISSUE: 98-02 ZAC-327

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7322	47AH	BELL	LYC			BELLOWS	FAILED		10/28/97
	2645	47G3B	TVO435A1A		MA6AA	293548	CARB MIXTURE	1086	98ZZZX84
*****	HELICOPTER LOST ENGINE POWER IN-FLIGHT. DURING GROUND RUN TROUBLESHOOTING PROCESS, THE ENGINE WOULD NOT OPERATE ABOVE 1500 RPM. THE MARVEL SCHEBELER (MODEL MA-6AA, SN AH-1-383) CARBURETOR WAS BENCH TESTED BY THE NTSB AND WOULD ONLY PERFORM APPROXIMATELY 50 PERCENT CAPACITY. DURING CARBURETOR TEAR DOWN INSPECTION, FOUND PLASTIC RESIN ADHESIVE MISSING. THIS ADHESIVE LOCKS THE BELLOWS TO THE SHAFT ON THE AUTOMATIC MIXTURE CONTROL (PN 293-548). THIS ALLOWED THE BELLOWS TO MOVE DOWN THE SHAFT, THEREFORE, LIMITING FUEL OUTPUT.								
7230	4573B	BOLKMS	ALLSN			SPLINE ADAPTER	WORN	375	12/18/97
HEEA	S673	BO105S	250C20B		6890550	23039791	COMPRESSOR		HEEA0012378
	ENGINE REMOVED DUE TO CRACKED COMPRESSOR SCROLL AND VIBRATION. UPON INSPECTION OF COMPRESSOR PARTS NOTED: WORN BEYOND SERVICEABLE LIMITS ON SPLINE ADAPTER RETAINING RING GROOVE. INSTALLED A NEW SPLINE ADAPTER.								
7250	137AE	BOLKMS	ALLSN			COUPLING	WORN	516	12/18/97
HEEA	S851	BO105S	250C20B		6898735	6898977	ENG N1		HEEA0012377
	ENGINE REMOVED DUE TO TURBINE INSPECTION. UPON INSPECTION OF TURBINE PARTS NOTED: STEP WEAR BEYOND SERVICEABLE LIMITS ON N1 COUPLING SPLINES (FAILED NO-GO GAUGE) INSTALLED A NEW N1 COUPLING.								
7261	131AE	BOLKMS	ALLSN			INTERNAL SUMP	MAKING METAL		1/2/98
HEEA	S787	BO105S	250C20B		6898735	6888547	ENGINE		HEEA0012419
	ENGINE REMOVED DUE TO METAL IN OIL. UPON INSPECTION OF TURBINE PARTS NOTED: ERODED BEYOND SERVICEABLE LIMITS ON INTERNAL SUMP SEALS AND CRACKED.								
7250	158BK	BOLKMS	LYC			ROTOR ASSY	FAILED	1529	7/28/97
R7MA	7058	BK117A3	LTS101650B1			414129001	POWER TURBINE		98ZZZX106
	ROTOR ASSY FAILED SB LT101-72-10-0153, Q-ROTOR = 12.36 GMIN2. EXCESSIVE IBPT BLADE SHIFT. REPLACED WITH USED UNIT, CORRECTED PROBLEM. PART TOTAL CYCLES, 3,148.								
7250	586BH	BOLKMS	LYC			ROTOR ASSY	FAILED	1486	8/22/97
R7MA	7129	BK117A4	LTS101650B1			414129001	POWER TURBINE	756	98ZZZX107
	ROTOR ASSEMBLY FAILED SB LT101-72-10-0153. EXCESSIVE IBPT BLADE SHIFT, Q-ROTOR = 6.77 GMIN2. REPLACED WITH USED UNIT, CORRECTED PROBLEM. PART TOTAL CYCLES, 3,128.								
7310	134AE	BOLKMS	LYC			FUEL NOZZLE	LEAKING	2246	12/31/97
HEEA	7237	BK117B1	LTS101750B1			430137601	FUEL MANIFOLD		HEEA0012407
	AFTER LEAK CHECK PER SB LT101-73-10-0124, PART II A IT WAS DISCOVERED THAT THE FUEL MANIFOLD WAS LEAKING AT ONE OF THE FUEL NOZZLES WHERE THE RIDGED TUBE IS BRAZED TO THE NOZZLE.								
7414	94112	CESSNA	LYC		SLICK	MAGNETO	FAILED	182	12/18/97
	15285600	152	O235L2C			4381	LT MAGNETO		98ZZZX102
	INSTALLED TWO NEW 4381 MAGNETOS ON AN ENGINE REBUILD. LEFT MAG ROTATING MAGNET APPEARS TO HAVE FAILED DUE TO FACTORS UNKNOWN. RESULT IS A BENT SHAFT AT THE IMPULSE COUPLING. NO DAMAGE TO DRIVE GEARS NOTED.								
7414	73671	CESSNA	LYC		ELECTROSYS	COIL	CRACKED		12/22/97
	17267605	172M	O320H2AD		D4RN2021	ES103827901	MAGNETO	452	98ZZZX99
	DURING 500-HOUR INSPECTION, (PULLED AT 452.2 HOURS TSO), BOTH COILS IN TCM 2000 SERIES MAGNETO WERE FOUND CRACKED. COILS HAD THE FOLLOWING MARKINGS: 38/95 AND 8-9, 35/75 AND 10-10. MAGNETO WAS OVERHAULED BY ELECTROSYSTEMS, INC., FOR LYCOMING. ENGINE OVERHAULED ON 8-15-96. SUSPECT CAUSE IS MANUFACTURING DEFECT OR DESIGN FLOW.								
7414	6831M	CESSNA	CONT		SLICK	MAGNETO	FAILED	1000	12/14/97
	2106994	210M	IO520L			6310	RT MAGNETO		98ZZZX100
	RIGHT MAGNETO DEAD. OPENED MAG, FOUND COPPER AND CARBON DUST EVERYWHERE. FOUND BLOCK AND GEAR BEARINGS WORN SEVERELY AND GEAR DAMAGED, TEETH VERY SHARP DUE TO MISALIGNMENT OF LARGE GEAR. MAGS WERE NOT INSPECTED AT 500-HOUR INSPECTION AS RECOMMENDED.								

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - ENGINES (cont'd)

1/4/98 To 1/10/98 ISSUE: 98-02 ZAC-327

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7421	4667Q 21059567	CESSNA 210L	CONT IO520L		CHAMPION	SPARK PLUG RHB32E	SHORTED ELECTRODE		12/10/97 98ZZZX12
UPON INSTALLING NEW SPARK PLUGS, THE ENGINE RAN ROUGH. WHEN INSPECTING THE SPARK PLUGS, THREE WERE FOUND MILLED IMPROPERLY AND SMALL SLIVERS OF METAL SHORTING THE CENTER ELECTRODE.									
8520 EBTR	401GS 401A0063	CESSNA 401A	CONT TSIO520EB			LIFTER SA646277	GALLED ENGINE	168	10/14/97 98ZZZX115
LIFTER/CAMSHAFT GALLED. LIFTER BODY CHIP FOUND IN OIL FILTER. PRESSURE RELIEF VALVE CAUSING LOW OIL PRESSURE. ENGINE TORN DOWN, NEW PARTS INSTALLED.									
8520 EBTR	401GS 401A0063	CESSNA 401A	CONT TSIO520EB			CAMSHAFT SA649520A3	GALLED ENGINE	168	10/14/97 98ZZZX114
LIFTER/CAMSHAFT GALLED. LIFTER BODY CHIP FOUND IN OIL FILTER. PRESSURE RELIEF VALVE CAUSING LOW OIL PRESSURE. ENGINE TORN DOWN, NEW PARTS INSTALLED.									
8520	869CB 421B0863	CESSNA 421B	CONT GTSIO520H			BOLT 538811	FAILED CRANKCASE		12/23/97 98ZZZX138
DURING ROUTINE 50-HOUR EXHAUST SYSTEM INSPECTION, NOTED BOLT AT RIGHT SIDE FORWARD LOWER CRANKCASE JUST ABOVE OIL PAN STICKING OUT AND TOUCHING EXHAUST CROSS-OVER TUBE. REMOVED TUBE, FOUND HEAD OF BOLT POPPED OFF. BOLT HEAD OR WASHER PN 401507 COULD NOT BE LOCATED IN COWLING. INSTALLED NEW BOLT AND WASHER, TORQUED 165 INCH/POUND PER ENGINE OHM. THIS ENGINE IS AN AVIALL OVERHAULED ENGINE FOR TCM COMPLETED 5/89. BOLT SIZE: .3750 INCH - 16 INCHES BY 5.25 INCHES LONG.									
8520	8262D CE1645	LKHEED T33A	CONT IO520BB			BOLTS	LOOSE LOWER CASE	925	12/5/97 98ZZZX38
OIL SUMP QUICK DRAIN WOULD NOT OPEN. REMOVED QUICK DRAIN TO TROUBLESHOOT AND FOUND LOOSE BOLT LAYING ACROSS DRAIN HOLE IN OIL PAN. REMOVED OIL PAN AND FOUND 3 EACH .25 INCH FLANGE BOLTS AND 1 EACH .3125 INCH THROUGH-BOLT LYING IN PAN ALONG WITH NUTS AND WASHERS. ALL OTHER CASE (LOWER) BOLTS WERE LOOSE ENOUGH TO ROTATE. SUBMITTER STATED MOST LIKELY WAS NEVER TIGHTENED PROPERLY AT FACTORY. SHOULD HAVE BEEN TORQUED PROPERLY AND LOCKWASHERS OR TABS INSTALLED. THIS ENGINE HAS 925 HOURS SINCE NEW. MFG DATE 1992.									
7261 DJFR	46AK 754SA	MTSBSI MU2B60	GARRTT TPE33110		310180711	OIL JET 8961734	BROKE GEARBOX	3227	12/2/97 98ZZZX155
OIL JET BROKE AND LODGED ITSELF IN PLANETARIES AND RING GEAR. RING GEAR BROKE AND COUPLER SHAFT SHEARED RESULTING IN ENGINE SHUT DOWN.									
8550	2083G 28R7918014	PIPER PA28RT201	LYC IO360C1C6		78528	IMPELLER 60746	WRONG PART OIL PUMP		11/18/97 98ZZZX41
ENGINE DISASSEMBLED FOR MAJOR OVERHAUL AND DISCOVERED OIL PUMP HAD PREVIOUSLY BEEN ASSEMBLED WITH A LW18110 DRIVEN IMPELLER WHICH IS CARBURIZED, AND A NR 60746 DRIVE IMPELLER WHICH IS NOT NITRIDE HARDENED. THIS IS CONTRARY TO THE INSTRUCTIONS IN LYC SB 524. THIS WAS A LYC FACTORY OVERHAULED ENGINE SEVERAL YEARS AGO. THERE WAS NO RECORD OF OIL PUMP REPAIR SINCE OVERHAUL BY LYC. THE IMPELLER, EVEN THOUGH NOT CORRECT IN COMBINATION WITH THE MATING IMPELLER, WAS NOT EXCESSIVELY WORN.									
7414	1132Q 327740046	PIPER PA32300	LYC IO540K1G5		SLICK 6351	IMPULSE COUPLING M3333	DEFECTIVE	400	11/1/97 98ZZZX5
IMPULSE COUPLING HAS JUST UNDER 400 HOURS TIME IN SERVICE AND IS DEFECTIVE.									
7414	8127K 327940268	PIPER PA32300	LYC IO540K1G5		SLICK 6351	IMPULSE COUPLING M3333	DEFECTIVE	500	11/1/97 98ZZZX9
MAGNETO REMOVED AT 500 HOURS TIS DUE TO IMPULSE COUPLING DEFECT.									
8520	2159S 347970144	PIPER PA34200T	CONT LTSIO360EB			STUD 6524201048	SHEARED NR 1 CYL BASE	1268	12/22/97 98ZZZX136
NOTICED BASE NUT AND PART OF STUD MISSING ON TOP REAR STUD LOCATION OF NR 1 CYLINDER. NUT HAD COME OFF OTHER END OF STUD. STUD HAD FAILED AT CYLINDER BASE FLANGE. ENGINE OVERHAULED BY MATTITUCK 1,267 HOURS PREVIOUSLY. UNKNOWN IF STUD WAS NEW THEN. (PART IS COMMONLY CALLED A THRU-BOLT).									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - ENGINES (cont'd)

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7230	706AE	SKRSKY	ALLSN			GEARSHAFT	WORN	661	12/18/97
HEEA	760275	S76A	250C30S		23051643	23056634	SPUR ADAPTER		HEEA0012375
ENGINE REMOVED DUE TO TURBINE OVERHAUL AND COMPRESSOR N1 SHAFTING INSPECTION. UPON INSPECTION OF COMPRESSOR PARTS NOTED: STEP WEAR BEYOND SERVICEABLE LIMITS ON SPUR GEAR SHAFT SPLINES. INSTALLED A NEW SPUR GEARSHAFT.									
7240	3122H	SKRSKY	ALLSN			COMBUSTION LINER	CRACKED		12/22/97
HEEA	760233	S76A	250C30S		23035128	6899081	ENGINE		HEEA0012381
RECEIVING INSPECTION REVEALED: CRACKED BEYOND SERVICEABLE LIMITS ON COMB. LINER INNER SKIRT. INSTALLED A DALLAS AIRMOTIVE OVERHAULED COMB. LINER.									
(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - ENGINES)									

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS**1/4/98 - 1/10/98 ISSUE: 98-02 ZAC-327**

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6122	924RM	BEECH				GOVERNOR	FAILED		12/19/97
	BE63	B100			WOODWARD	8210260	PROPELLER	294	98ZZZX94
*****	DURING FLIGHT, RIGHT ENGINE FLAMED OUT, NTS AND THE PROP FEATHERED. AN UNEVENTFUL LANDING WAS PERFORMED. UPON INSPECTION, FOUND THE ARM HAD FALLEN OFF OF THE PROP GOVERNOR SPLINED SHAFT. THE MOUNT BOLT WAS STILL SECURE IN THE ARM. THIS IS THE SECOND OCCURRENCE OF A B-100, ONE FAILED ARM HAD A SAFETY AND THIS ONE DID NOT. IT IS SUGGESTED THAT ON ENGINE INSPECTIONS, THE ARM BE PULLED ON FOR SECURITY TEST AND THAT THE MOUNT BOLT BE CHECKED FOR TIGHTNESS.								
3452	2272J	BELL				TRANSPONDER	FAILED		12/31/97
HEEA	3620	206B3			KT76	066106200	COCKPIT		HEEA0012393
	NO INDICATION OF INTERROGATION. PERFORMED PRELIMINARY INSPECTION. FOUND REPLY LIGHT DIM, REPLACED V301 PHOTOCCELL, REPAIRED. ADJUSTED UNIT TO SPECS. BENCH CHECK GOOD.								
3452	129MR	BELL				TRANSPONDER	FAILED		12/31/97
HEEA	51129	206L3			KT76	066106200	COCKPIT		HEEA0012394
	TRANSPONDER INOPERATIVE. PERFORMED PRELIMINARY INSPECTION. FOUND Q402 LOOSE IN UNIT. RESOLDERED Q402. UNIT NOW MAKING NOISE. TROUBLESHOT; SWAPPED OUT T401. REPLACED Q415, Q401, Q402, C401, C402, C403, C410, CR401, CR402. REPAIRED. UNIT STILL NOT RECEIVING. FOUND Q422BAD. REPLACED Q422. REPAIRED. ADJUSTED TO SPECS. BENCH CHECK GOOD.								
3457	2275Y	BELL			MAGELLAN	SKYNAV 5000	INTERMITTENT		12/17/97
HEEA	3626	206B3				0845000000	COCKPIT GPS		HEEA0012368
	GPS OPERATED INTERMITTENTLY.								
3457	2777D	BELL			MAGELLAN	SKYNAV 5000	FAILED		12/17/97
HEEA	45299	206L1				0845000000	COCKPIT GPS		HEEA0012367
	GPS WILL NOT UPDATE POSITION.								
2340	27805	BELL				INTERPHONE BOX	FAILED		12/17/97
HEEA	31106	212				A3016W	CO PILOT		HEEA0012362
	CO-PILOT CANNOT RECEIVE ON ANY RADIO OR THE INTERCOM, BUT CAN TRANSMIT BUT WITHOUT ANY SIDETONE. REPLACED WITH SERVICEABLE PART.								
3450	230UN	BELL				CONTROL	CHIPPED		12/17/97
HEEA	23009	230				071121627	COCKPIT NAV		HEEA0012365
	PAINT CHIPPED. PERFORMED PRELIMINARY INSPECTION. FOUND PAINT ON FACEPLATE CHIPPED. REPLACED FACEPLATE P/N 088-1103-18. REPAIRED. BENCH CHECK GOOD.								
2312	403PH	BELL				TRANSCEIVER	DEFECTIVE		12/31/97
HEEA	53177	407				064105430	COCKPIT		HEEA0012405
	NOT ALL DISPLAY NUMBERS ARE VISIBLE. REPLACED INTEGRATED CIRCUITS I505 AND I506. REPAIRED. FOUND AUDIBLE TONE WHEN CHECKING MODULATION PERCENTAGE WITHOUT KEYING TRANSMITTER. FOUND LEG OF TRANSISTOR Q119 TO JUST ABOUT BE BROKEN WHEN REMOVED FOR CHECKING. REPLACED TRANSISTOR Q119.REPAIRED. BENCH CHECK GOOD.								
3457	403PH	BELL				RECEIVER	FAILED	307	12/31/97
HEEA	53177	407				13824120234	GPS		HEEA0012411
	GPS RECEIVER CONTINUES TO READ "ANTENNA FAULT" AFTER BAD ANTENNA WAS REPLACED.								
2312	2149S	BELL				CONTROL	FAILED		12/17/97
HEEA	36002	412				071121570	COMM NR 2		HEEA0012366
	DISPLAY STAYS BRIGHT. PERFORMED PRELIMINARY INSPECTION. FOUND DISPLAY NOT DIMMING. REPLACED V101 PHOTOCCELL. REPAIRED. ALSO REPLACED INTERMITTENT TRANSFER SWITCH S102. REPAIRED. BENCH CHECK GOOD.								

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS (cont'd)

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2312 HEEA	21498 36003	BELL 412				COMM CONTROL 071121540	FAILED COCKPIT		12/31/97 HEEA0012402
COMM CONTROL DISPLAY SOMETIMES UNREADABLE. PERFORMED PRELIMINARY INSPECTION. REPLACED DISPLAY LENS. REPAIRED. ALSO REPLACED PHOTOCELL LENS AND HEADER P201. CHECKED 28V LIGHTING. BENCH CHECK GOOD.									
2370 HEEA	2261D 33076	BELL 412				CVR 9806020023	SHORTED COCKPIT		12/31/97 HEEA0012410
CVR DOES NOT COME ON. POWER WAS SHORTED TO GROUND.									
3421 HEEA	108X 33115	BELL 412				INDICATOR 222375033103	FAILED COCKPIT ATTITUDE		12/3/97 HEEA0012187
ATTITUDE INDICATOR PRECESSES IN PITCH AND ROLL. TIME SINCE REPAIR 186:10.									
3457 HEEA	1202T 33112	BELL 412				RECEIVER 81439000232	ERRATIC 2101A GPS		12/17/97 HEEA0012370
TURNING KNOB GIVES ERRATIC READINGS.									
3444 HEEA	137AE S851	BOLKMS BO105S				ALTIMETER 066106103	ERRATIC COCKPIT		12/17/97 HEEA0012361
ERRATIC RADAR ALTIMETER OPERATION.									
2211 R7MA	158BK 7058	BOLKMS BK117A3				COMPUTER 117884141	INOPERATIVE YAW CSAS	372	11/24/97 98ZZZX105
COMPUTER UNIT INOPERATIVE. REPLACED WITH USED UNIT, CORRECTED PROBLEM.									
3418	511AC 5250090	CESSNA 525				SWITCH A233103	FAILED AOA HEAT	1837	11/11/97 98ZZZX90
AOA PROBE WOULD NOT HEAT. TRACED PROBLEM TO DEFECTIVE SWITCH.									
6122 *****	690HT 11467	GULSTM 690B			WOODWARD	GOVERNOR 8954908	FAILED PROPELLER	2138	12/18/97 98ZZZX112
BETA LIGHT FLICKERED IN-FLIGHT. NO OTHER DISCREPANCIES ON NEXT DEPARTURE DURING TAXI OPERATION . PROPELLER WENT TOWARD COURSE PITCH UNCOMMANDED. ITT WENT TO RED LINE, PILOT SHUT ENGINE DOWN. INTERNAL FAILURE OF PROP GOV RESULTED IN METAL EXITING THE PROP GOV THRU OIL PASSAGES. CLOGGED NTS CHECK VALVE WHICH ELIMINATED OIL SUPPLY TO NEGATIVE SIDE OF TORQUE SENSOR. PLUGGED ADAPTER 3101708 ELIMINATING OIL SUPPLY TO POSITIVE SIDE OF TORQUE SENSOR, PLUGGED TURBINE BEARING OIL JET, CONTAMINATED FEATHER VALVE WHICH COMPLETELY DISABLED IT MAKING IT IMPOSSIBLE FOR NTS SYSTEM TO FUNCTION AND PROP COULD NOT BE FEATHERED MANUALLY.									
3457	400HK 36400	HOACAU HK36R				GPS KLX135	MISWIRED COCKPIT		5/15/97 98ZZZX117
CUSTOMER PURCHASED GPS UNIT FROM AIRCRAFT SPRUCE AND SPECIALTY CO. UPON INSTALLATION IN AIRCRAFT, FOUND UNIT IMPROPERLY WIRED. WIRED IAW ALLIED SIGNAL INSTALLATION MANUAL AND FOUND UNIT TO OPERATE TO SPECIFICATION. MANUAL NR 006-10500-0001. SUBMITTER RECOMMENDED THAT AVIONICS SHOPS WIRING SYSTEMS REFER TO INSTALLATION MANUAL AND TEST WIRING HARNESS BEFORE DELIVERING TO CUSTOMER. ALSO, NO MAINTENANCE RELEASE WAS DELIVERED WITH UNIT.									
6122	157MA 424SA	MTSBSI MU2B40			WOODWARD	GOVERNOR 8210115	FAILED PROPELLER		12/12/97 98ZZZX82
IN FLIGHT, RT ENGINE RPM DECAYED AND TORQUE ROSE. ALL OTHER PARAMETERS NORMAL. ENGINE WAS SHUT DOWN. AIRCRAFT RETURNED TO RIC AND SAFE LANDING MADE. TROUBLESHOT BY MAINTENANCE FOUND BETA SYSTEM OK. PROPELLER GOVERNOR REPLACED WITH OVERHAULED UNIT. SYSTEM CHECKED OK. ON GROUND RUN DURING TROUBLESHOOTING, OLD PROPELLER GOVERNOR WOULD TRY TO FEATHER PROPELLER WHEN MOVED OUT OF BETA RANGE. GOVERNOR SENT TO WOODWARD FOR OVERHAUL. SUSPECT INTERNAL FAILURE. GARRETT P/N FOR GOV IS 897410-7U.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS (cont'd)

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3425 HEEA	4253S 760035	SKRSKY S76A				INDICATOR 1113025	FAILED COCKPIT HSI		12/31/97 HEEA0012406
HSI INDICATOR COURSE SET KNOB INOPERATIVE.									
3457 HEEA	1546K 760082	SKRSKY S76A				RECEIVER 81439000232	FAILED 2101A GPS		12/17/97 HEEA0012371
CDI NOT CENTERED. 2101A GPS RECEIVER MALFUNCTION									
3457 HEEA	350BZ 2653	SNIAS AS350B2			MAGELLAN	SKYNAV 5000 0845000000	INTERMITTENT COCKPIT GPS		12/17/97 HEEA0012359
INTERMITTENTLY LOSES ITS SATELLITE SIGNALS AND DISPLAY WILL GO INTO FULL DIM.									
3457 HEEA	4000L 2873	SNIAS AS350B2			GARMIN INTL	GPS 150 0110005400	FAILED COCKPIT GPS		12/17/97 HEEA0012369
INTERNAL BATTERY DEAD.									

(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS)

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - PROPELLERS**1/4/98 - 1/10/98 ISSUE: 98-02 ZAC-327**

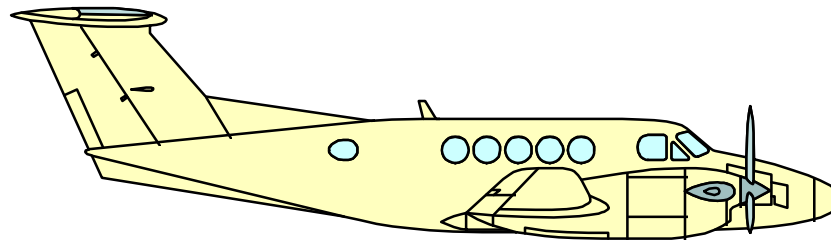
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6110		BEECH D18S		HARTZL HCB3R302		BEARING 1851	CORRODED PROP ASSY	5358 1355	1/1/96 EY2R9600290
		PROP ASSY BEARING IS CORRODED							
6110		BEECH D18S		HARTZL HCB3P302		BEARING 1851	CORRODED PROP ASSY	5358 1355	1/1/96 EY2R9600289
		PROP ASSY BEARING IS CORRODED							
6111	6278R 172RG0139	CESSNA 172RG		MCAULY B2D34C220		BLADE PROPELLER	BROKE PROPELLER		11/1/97 98ZZZX35
		APPROXIMATELY 4 INCHES OF PROPELLER TIP BROKE OFF IN-FLIGHT. AIRCRAFT MADE EMERGENCY LANDING.							
6110		CESSNA 310L		MCAULY D3AF32C87		CYLINDER C3550	CORRODED PROPELLER ASSY	1234 436	12/1/96 EY2R9601302
		CYLINDER FOUND WITH CORROSION.							
6110		CESSNA 310L		MCAULY D3AF32C87		CYLINDER C3550	CORRODED PROPELLER ASSY	1234 436	12/1/96 EY2R9601301
		CYLINDER FOUND WITH CORROSION.							
6114		CESSNA 310L		MCAULY 3AF32C*		HUB D7037C80	CORRODED PROPELLER ASSY		4/1/96 EY2R9600489
		CORROSION FOUND ON HUB.							
6114		CESSNA 310L		MCAULY 3AF32C*		HUB D7037C80	CORRODED PROPELLER ASSY		4/1/96 EY2R9600488
		CORROSION FOUND ON HUB.							
6114		CESSNA 441		MCAULY 4HFR34C660		HUB D5886C601	CORRODED PROPELLER ASSY		6/1/96 EY2R9600773
		HUB FOUND CORRODED.							
6114		CESSNA 441		MCAULY 4HFR34C660		HUB D5886C601	CORRODED PROPELLER ASSY		6/1/96 EY2R9600772
		HUB FOUND CORRODED.							
6110		EMB EMB110*		HARTZL HCB3TN3		STEEL BALL 790100018	CORRODED PROP ASSY	8331 2830	1/1/96 EY2R9600293
		PROP ASSY STEEL BALL IS CORRODED							
6110		EMB EMB110*		HARTZL HCB3TN3		BEARING 1851T	CORRODED PROP ASSY	8331 2830	1/1/96 EY2R9600292
		PROP ASSY BEARING IS CORRODED							
6110		EMB EMB110*		HARTZL HCB3TN3		CLAMP 130195	CORRODED PROP ASSY	8331 2830	1/1/96 EY2R9600291
		PROP ASSY CLAMP IS CORRODED							

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6111		MOONEY M20		MCAULY B2D34C53		BLADE 74E0	CORRODED PROPELLER ASSY		5/1/96 EY2R9600628
BLADE, SN A5868, FOUND CORRODED.									
6111		MOONEY M20		MCAULY B2D34C53		BLADE 74E0	CORRODED PROPELLER ASSY		5/1/96 EY2R9600627
BLADE, SN A10840, FOUND CORRODED.									
(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - PROPELLERS)									



INTERNATIONAL SERVICE DIFFICULTY REPORT



INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT**1/4/98 - 1/10/98 ISSUE: 98-02 ZAC-327**

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3222		AMTR EXPRESSFT	LYC IO540N1A5	HARTZL HCF3YR1		GEAR LEG 4000004	FAILED NLG		3/21/97 AU970333
(AUS) NOSE LANDING GEAR LEG FAILED									
2701		AMTR EAGLEXL2				CONTROL COLUMN 54130SF198ZA	BROKEN HAND GRIP		6/10/97 AU970729
(AUS) CONTROL COLUMN HAND GRIP BROKEN									
3213		AMTRNC 320LANCAIR				PIVOT GM0013	CRACKED MLG LUG		6/23/97 AU970683
(AUS) LH MAIN LANDING GEAR PIVOT LUGS CRACKED - AIRCRAFT HAD BEEN MODIFIED 28 HOURS PREVIOUSLY BY FITMENT OF HEAVY DUTY OUTBACK LANDING GEAR KIT - COMPARISON OF THE LH AND RH MAIN LANDING GEAR LUGS FOUND THAT THE MATERIAL THICKNESS ON THE CRACKED LH LUGS WAS ONLY 3.175MM (0.125IN) COMPARED TO 6.35MM (0.25IN) ON THE RH LANDING GEAR LUGS - INVESTIGATION FOUND THAT THE LANDING GEAR KIT SUPPLIED CONTAINED ONE HEAVY DUTY LEG AND ONE LIGHT DUTY LEG									
5711		AYRES S2RT34NORMAL	PWA PT6A34AG	HARTZL HCB3TN3	AYRES	WEB 202732LH	CRACKED WING SPAR		6/17/97 AU970695
(AUS) LH WING INBOARD WEB CRACKED - DUPLICATE OF MDR 97/0667									
5711		AYRES S2RT34NORMAL	PWA PT6A34AG	HARTZL HCB3TN3	AYRES	WEB 202732LH	CRACKED WING SPAR		6/17/97 AU970667
(AUS) LH WING INBOARD WEB CRACKED									
3230		BEECH B200C	PWA PT6A42			LANDING GEAR	FAULTY EMERG EXT LEVER		5/31/97 AU970666
(AUS) LANDING GEAR EXTENSION SYSTEM FAULTY - UNABLE TO MOVE EMERGENCY EXTENSION LEVER - LANDING GEAR 60AMP CIRCUIT BREAKER POPPED - CIRCUIT BREAKER RESET, EMERGENCY SYSTEM DISENGAGED AND LANDING GEAR EXTENDED NORMALLY - INSPECTION COULD FIND NO APPARENT DEFECT IN SYSTEM APART FROM A BUILDUP OF GREASE AROUND THE CLUTCH AREA - GREASE CLEANED OFF AND CLUTCH LUBRICATED, NEW MOTOR FITTED AS A PRECAUTION - RETRACTION CHECKS CARRIED OUT WITH NO FAULTS EVIDENT									
6123		BEECH 76		HARTZL HCM2YR		ACCUMULATOR 8907	FAULTY PROP FEATHER		4/12/97 AU970622
(AUS) PROPELLER UNFEATHERING ACCUMULATOR LEAKING INTERNALLY CAUSING LOSS OF AIR CHARGE - SUSPECT WORN PISTON 'O' RING SEALS									
3230		BEECH C90	PWA PT6A20	HARTZL HCB3TN3		CIRCUIT BREAKER 70000150	INTERMITTENT MLG MOTOR		5/17/97 AU970736
(AUS) LANDING GEAR MOTOR 50AMP CIRCUIT BREAKER INTERMITTENT									
5730		BEECH 95B55	CONT IO470L	MCAULY 2AF34C55	BEECH	SKIN 95110014206	CORRODED WS 66 TO 80		6/12/97 AU970651
(AUS) RH WING LOWER SKIN CORRODED THROUGH AT FORWARD INBOARD END -CORROSION INITIATED BETWEEN SKIN AND DOUBLER INSTALLED AT INBOARD END OF SKIN BETWEEN WS 66.0 AND WS 80.0									
2730		CESSNA 172H	CONT O300C	MCAULY 1C172EM	CESSNA 053200173LH	TORQUE TUBE 07341023	CORRODED ELEVATOR CONTROL		6/22/97 AU970699
(AUS) LH AND RH ELEVATOR TORQUE TUBE COLLARS PNO 0734102-3 (INBOARD) AND PNO 0734102-4 (OUTBOARD) SEVERELY CORRODED - RIVET HEADS LOST - RIBS, SKIN AND STRINGERS ALSO CORRODED									

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT (cont'd)

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2730		CESSNA 172R			MS21042L5	BOLT ANS11A	LOOSE ELEVATOR CONTROL		6/12/97 AU970645
(AUS) LOWER ELEVATOR PULLEY LOCATED AT BULKHEAD AFT OF ELEVATOR BELLCRANK HAD NUT PNO MS21042L5 AND BOLT PNO ANS-11A LOOSE BUT STILL IN SAFETY - PERSONNEL/MAINTENANCE ERROR									
5312		CESSNA 172P		MCAULY 1C160DTM		BULKHEAD 05121871	CRACKED DOOR POST		6/10/97 AU970646
(AUS) FUSELAGE BULKHEAD LH AND RH LOWER AFT DOOR POSTS PNO 0512187-1 LH AND PNO 0512187-2 RH CRACKED IN AREA INDICATED BY SERVICE BULLETIN									
2730		CESSNA 207A	CONT IO520*	MCAULY D3A34C404	CESSNA	RIVETS AN470	LOOSENING LH ELEVATOR	4829	10/4/94 CA941024001
(CAN) ELEVATOR TORQUE TUBE ATTACH RIVETS SHOWING SIGNS OF LOOSENING. SQUEAKY WHEN PRESSURE & MOVEMENT APPLIED.									
2434		CESSNA 210N	CONT IO520L	MCAULY D3A34C404		ALTERNATOR 0012084	WORN DC GEN ALT		6/3/97 AU970668
(AUS) ALTERNATOR BRUSHES WORN - SUSPECT CAUSED BY BRUSH BOUNCE									
2400		CESSNA 310L	CONT IO470U	MCAULY D3AF32C80		ELECTRICAL SYS	FAULTY LT FIREWALL		6/19/97 AU970682
(AUS) AIRCRAFT EXPERIENCED ELECTRICAL PROBLEMS. FIBREGLASS PROTECTIVE SHIELD OVER LH AND RH FIELD FUSES ON THE LH FIREWALL HAD CHAFED THROUGH THE LH ALTERNATOR FIELD CABLE. PERSONNEL/MAINTENANCE ERROR									
2432		CESSNA 310L	CONT IO470U	MCAULY D3AF32C80		DIODE	INOPERATIVE BATTERY MASTER		6/19/97 AU970692
(AUS) BATTERY MASTER SYSTEM DIODE INOPERATIVE.									
2434		CESSNA 310L	CONT IO470U	MCAULY D3AF32C80		ALTERNATOR	INOPERATIVE DC GEN-ALT FIELD		6/19/97 AU970691
(AUS) ALTERNATOR EMERGENCY FIELD SYSTEM INOPERATIVE. SEE MDR 97/0682 FOR ADDITIONAL INFORMATION.									
3213		CESSNA 310R	CONT IO520M	MCAULY 3AF32C87		WASHER 50450181	FAULTY MLG SCISSOR		6/10/97 AU970650
(AUS) MAIN LANDING GEAR SCISSOR LINK CENTRE BOLT PULLED THROUGH LOWER LINK ALLOWING WHEEL TO ROTATE Laterally - DURING LANDING THE TYRE AND TUBE BLEW OUT - SUSPECT CAUSED BY FAULTY WASHER AND/OR BUSHING									
3221		CESSNA 310L	CONT IO470U	MCAULY D3AF32C80		PLATE	DAMAGED NLG		3/11/97 AU970679
(AUS) NOSE LANDING GEAR FACE PLATE DAMAGED									
5220		CESSNA 310L	CONT IO470U	MCAULY D3AF32C80		EXIT DOOR	SEALED EMERGENCY EXIT		3/11/97 AU970687
(AUS) EMERGENCY EXIT DOOR SEALED CLOSED. SEALANT HAD TO BE CUT TO ALLOW THE EXIT TO BE REMOVED. AD/GEN/37 LAST CARRIED OUT ON THE 15TH OCTOBER 1996. PERSONNEL/MAINTENANCE ERROR.									
7120		CESSNA 310L	CONT IO470U	MCAULY D3AF32C80		MOUNT	BROKEN ENGINE MOUNT		3/11/97 AU970685
(AUS) RH ENGINE REAR ENGINE MOUNT RUBBER BROKEN.									

***** DENOTES SIGNIFICANT OCCURRENCE

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT (cont'd)

1/4/98 To 1/10/98 ISSUE: 98-02 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
7120		CESSNA 310L	CONT IO470U	MCAULY D3AF32C80		MOUNT	WORN RT ENGINE		6/19/97 AU970693
(AUS) RH ENGINE RH REAR ENGINE MOUNT LANDS WORN EXCESSIVELY. SEE MDR97/0685 FOR DEFECT ON RH ENGINE LH REAR MOUNT FAILURE									
7160		CESSNA 310L	CONT IO470U	MCAULY D3AF32C80		DOOR	LOOSE ENGINE AIR INT		3/11/97 AU970686
(AUS) ENGINE ALTERNATE AIR DOOR BRACKET LOOSE AND INCORRECTLY RIGGED									
7160		CESSNA 310L	CONT IO470U	MCAULY D3AF32C80		BRACKET	SEPARATED ENGINE AIR INT		6/19/97 AU970689
(AUS) ENGINE ALTERNATE AIR DOOR BRACKET SEPARATED AND INGESTED INTO ENGINE									
7602		CESSNA 310L	CONT IO470U	MCAULY D3AF32C80		NUT	LOOSE MIXTURE CONTROL		6/19/97 AU970690
(AUS) ENGINE MIXTURE CONTROL CABLE OUTER SHEATH NUT NOT ATTACHED									
5341		CESSNA 411	CONT GTSIO520C	MCAULY 3AF34C74		FITTING 08113507	CORRODED RT WING ATTACH		6/30/97 AU970724
(AUS) UPPER RH FUSELAGE WING ATTACHMENT FITTING CONTAINED EXFOLIATION CORROSION ON LOWER SURFACE									
2434		CESSNA 421C	CONT GTSIO520L	MCAULY 3FF32C501	CONT	ALTERNATOR ALV9407	FAILED DC GEN-ALT		6/1/97 AU970731
(AUS) LH ALTERNATOR FAILED - INSPECTION FOUND THAT THE FAILURE WAS DUE TO THE DIODE PLATE GROUND WIRE BEING LOOSE									
3260		EMB EMB110P1	PWA PT6A34	HARTZL HCB3TN3		SWITCH	INCORRECT WIRED LANDING GEAR POS		6/5/97 AU970657
(AUS) LH MAIN LANDING GEAR DOWNLOCK SWITCH FAULTY - FAILED INSULATION TEST IAW SB/110/32-0052 REV3 - INVESTIGATION FOUND THAT THE SWITCH HAD BEEN WIRED DIRECTLY INTO THE LOOM INSTEAD OF THROUGH THE PLUG - THE WIRING SPLICES HAD EVENTUALLY CORRODED CAUSING CRACKING - PERSONNEL/MAINTENANCE ERROR									
5270		EMB EMB110P2	PWA PT6A34	HARTZL HCB3TN3		SWITCH	OUT OF ADJUST DOOR WARNING SYS		6/3/97 AU970649
(AUS) REAR ENTRY DOOR MICROSWITCH OUT OF ADJUSTMENT									
5320		EMB EMB110P2	PWA PT6A34	HARTZL HCB3TN3		DOOR POST	DAMAGED FUSELAGE		5/14/97 AU970652
(AUS) FUSELAGE DOOR PILLAR AND DOOR MAIN CABLE ATTACHMENT BRACKET CRACKED.									
7700		EMB EMB110P2	PWA PT6A34	HARTZL HCB3TN3		INDICATOR SYSTEM	OUT OF ADJUST ENGINE		6/26/97 AU970719
(AUS) RH AND LH TORQUE SYSTEMS, RH AND LH T5 INDICATORS, RH T5 CIRCUIT RESISTANCE, LH AND RH FUEL PRESSURE INDICATION SYSTEMS, RH LOWFUEL WARNING SYSTEM, LH AND RH FUEL QUANTITY SYSTEMS, LH OIL PRESSURE INDICATION, LH GYRO COMPASS, STANDBY COMPASS AND RH GYRO COMPASS SYSTEM ALL OUT OF ADJUSTMENT.									
5610		GROB G115C	LYC O360A1F6	HARTZL HCF2YR1		GUIDE 115G260024	DAMAGED FLIGHT COMPART		4/18/97 AU970391
(AUS) CANOPY RH AFT GUIDE BLOCK SPLIT									
2510		PIPER PA28180	LYC O360A4A	SNSNCH M76EMMS		SEAT BELT	UNAPPROVED PART FLIGHT COMPART		5/23/97 AU970696
(AUS) SEAT BELTS REWEBBED WITH INCORRECT HEMCO BRAND SEAT BELT HARDWARE - THIS HARDWARE WAS REQUIRED TO BE REMOVED FROM SERVICE IAW AD/RES/27 - PERSONNEL/MAINTENANCE ERROR - UNAPPROVED PART									

***** DENOTES SIGNIFICANT OCCURRENCE

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
3230		PIPER PA28R200	LYC IO360C1C	HARTZL HCC2YK1	9529902	STUD 9529900	FAULTY LT RT MLG		6/20/97 AU970707
(AUS) LH AND RH MAIN LANDING GEAR SIDE BRACE STUDS SUSPECT FAULTY - FOUND DURING MAGNETIC PARTICLE INSPECTION									
2140		PIPER PA34220T	CONT TSIO360KB	MCAULY 3AF32C508	JANITROL 90D281	COMBUSTOR 39D18	CRACKED HEATING SYSTEM		5/26/97 AU970648
(AUS) CABIN HEATER COMBUSTION CAN SPLIT AROUND CIRCUMFERENCE FOR APPROXIMATELY 60MM (2.36IN) - HEATER WAS BEING OVERHAULED TO COMPLY WITH REQUIREMENTS OF AD/AIRCON/9 AMDT5 PARA3									
(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT)									

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS**1/4/98 - 1/10/98 ISSUE: 98-02 ZAC-327**

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
6330		AEROSP AS355F1	ALLSN 250C20F			MOUNT 350A38101832	CRACKED M/R TRANS		4/1/97 AU970664
(AUS) MAIN TRANSMISSION BI-DIRECTIONAL MOUNT CRACKED - FOUND DURING INSPECTION IAW AD/AS355/47									
7230		BELL 206B	ALLSN 250C20		ALLSN	COMPRESSOR 6853337	FOD ENGINE COMP	3045	6/22/97 AU970743
(AUS) COMPRESSOR DAMAGED BY FOD									
7210		BELL 412	PWA PT6T3B			COMBINING GRBOX 3BE	FAULTY ENGINE		5/26/97 AU970662
(AUS) ENGINE COMBINING GEARBOX FAULTY - SUSPECT FAULTY CARBON SEAL ALLOWED OIL TO TRANSFER INTO GEARBOX CAUSING OVERFILLING AND LOSS OF OIL OVERBOARD									
6230		ROBSIN R22BETA	LYC O320B2C			SWASHPLATE A0172	DEFECTIVE MAIN ROTOR MAST		5/15/97 AU970716
(AUS) SWASHPLATE ASSEMBLY OUT OF HOURS - ASSEMBLY HAD NO RELEASE NUMBER FOR OVERHAUL AT 2000 HOURS									
6310		ROBSIN R22	LYC O320B2C			DRIVE BELT A1902	FAILED ENG TRANS		6/12/97 AU970684
(AUS) ENGINE TO TRANSMISSION DRIVE FORWARD 'V' BELT SPLIT AND ROLLED OFF PULLEY.									
6322		ROBSIN R22BETA	LYC O320B2C			BEARING A1814	OUT OF HOURS COOLING FAN		5/15/97 AU970713
(AUS) FANSHAFT ASSEMBLY LOWER BEARING OUT OF HOURS - BEARING HAD NOT BEEN REPLACED AT THE 2000 HOURLY INSPECTION - FANSHAFT ASSEMBLY HAD NO RELEASE NUMBER FROM ROBINSON HELICOPTERS									
6720		ROBSIN R22BETA	LYC O320B2C			PITCH CONTROL A0311	FAULTY TAIL ROTOR CONT		5/15/97 AU970709
(AUS) TAIL ROTOR PITCH CHANGE ASSEMBLY FAULTY - ASSEMBLY WAS REFITTED AT THE 2000 HOURLY SERVICING WITH NO WORK RELEASE ORDER OR RELEASE NUMBER SHOWING IT TO BE OVERHAULED BY ROBINSON HELICOPTER - PERSONNEL/MAINTENANCE ERROR - UNAPPROVED PART									
7260		SKRSKY S76A	ALLSN 250C30		ALLSN	NUT MS210433	SEPARATED ENG 2.5 BEARING		5/21/97 AU970663
(AUS) NO2 ENGINE GEARBOX 2.5 BEARING SUPPORT RETENTION NUTS (20FF6) MISSING - NUTS WERE EVENTUALLY FOUND IN THE OIL PUMP SCAVENGE LINE - NUTS WERE NOTED TO BE OF AN UNUSUAL TYPE - SUSPECT UNAPPROVED PART									
7712		SKRSKY S76C	TMECA ARRIEL1S		TMECA	TRANSMITTER 9550165380	FAULTY NR 1 ENG TORQ		6/11/97 AU970701
(AUS) NO1 ENGINE TORQUE TRANSMITTER FAULTY									

(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS)

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - ENGINES**1/4/98 - 1/10/98 ISSUE: 98-02 ZAC-327**

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
7322		BEECH 200BEECH	PWA PT6A41	HARTZL HCB3TN3	BENDIX FCU	BEARING 2525464	FAILED FUEL CONTROL		6/3/97 3374 AU970694
(AUS) RH ENGINE FUEL CONTROL UNIT (FCU) FAULTY - BEARING FAILED - FCU TO FUEL PUMP DRIVE COUPLING SHEARED									
8520		BEECH 58	CONT IO550*	MCAULY 3AF32C512	CONT	CRANKCASE 676405	CRACKED RECIP ENG		5/7/97 AU970532
(AUS) ENGINE CRANKCASE LH HALF CRACKED IN AREA OF NO2 BEARING SADDLE -NO6 CONNECTING ROD CAP CONTAINED MULTIPLE CRACKING - SUSPECT CRACKING ORIGINATED FROM CORROSION PITTING									
7414		BEECH 76	LYC LO360A1G6		BENDIX D4RN2021	GEAR 10682014	FAILED ENG MAG DIST		6/13/97 AU970656
(AUS) MAGNETO DISTRIBUTOR GEAR TEETH MISSING									
7230		BELL 206B	ALLSN 250C20		ALLSN	COMPRESSOR 6853337	FOD ENGINE COMP		6/22/97 3045 AU970743
(AUS) COMPRESSOR DAMAGED BY FOD									
7210		BELL 412	PWA PT6T3B			COMBINING GRBOX 3BE	FAULTY ENGINE		5/26/97 AU970662
(AUS) ENGINE COMBINING GEARBOX FAULTY - SUSPECT FAULTY CARBON SEAL ALLOWED OIL TO TRANSFER INTO GEARBOX CAUSING OVERFILLING AND LOSS OF OIL OVERBOARD									
7414		CESSNA 152	LYC O235L2C	MCAULY 1A103TCM	SLICK 4381	COIL M3975	OPEN CIRCUIT ENGINE		6/11/97 AU970644
(AUS) MAGNETO COIL OPEN CIRCUITED									
7322		CESSNA 172N	LYC O320H2AD	MCAULY 1C160DTM	FACET	SCREW CK34843	MISSING CARB MIX ADJ		5/27/97 AU970661
(AUS) CARBURETTOR MIXTURE ADJUSTMENT SCREW MISSING - SUSPECT BROKEN FRICTION SPRING ALLOWED SCREW TO UNWIND									
8530		CESSNA 210M	CONT IO520L	MCAULY D3A34C404	CONT 639272	CYLINDER 639272	CRACKED SPARK PLUG HOLE		5/10/97 601 AU970705
(AUS) ENGINE CYLINDER CRACKED BETWEEN TOP SPARK PLUG HOLE AND INJECTOR NOZZLE									
8530		CESSNA 210M	CONT IO520L	MCAULY D3A34C404	CONT 639272	CYLINDER 639272	CRACKED SPARK PLUG HOLE		5/10/97 53 AU970704
(AUS) ENGINE CYLINDER CRACKED BETWEEN TOP SPARK PLUG HOLE AND INJECTOR NOZZLE - SUSPECT CYLINDER HAD BEEN WELD REPAIRED									
8530		CESSNA 210M	CONT IO520L	MCAULY D3A34C404	CONT 639272	CYLINDER 639272	WORN NR 6 CYL INJ		3/26/97 548 AU970703
(AUS) NO6 CYLINDER FUEL INJECTOR NOZZLE HOLE WORN OUT									
8520		CESSNA 310R	CONT IO520M	MCAULY 3AF32C87		CRANKCASE	CRACKED ENG NR 2 CYL		6/12/97 683 AU970673
(AUS) LH CRANKCASE HALF CRACKED AT TOP REAR BELOW LH MAGNETO AND CENTER BETWEEN SPINE AND NO2 CYLINDER - CRACK LENGTH 76.2MM(3IN) RUNNING FORE AND AFT									
8530		CESSNA 310L	CONT IO470U	MCAULY D3AF32C80		CYLINDER	DAMAGED ENG NR 2 & NR 6		6/19/97 AU970688
(AUS) NO2 AND NO6 CYLINDERS DAMAGED BY INGESTION OF SEPARATED ALTERNATE AIR DOOR BRACKET. PERSONNEL/MAINTENANCE ERROR.									

***** DENOTES SIGNIFICANT OCCURRENCE

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - ENGINES (cont'd)

1/4/98 To 1/10/98 ISSUE: 98-02 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
8520		CESSNA 402A	CONT TSIO520E	MCAULY 3AF32C87	CONT	CRANKCASE 642001	CRACKED NR 3 & NR 5 CYL	610	6/22/97 AU970732
(AUS) CRANKCASE CRACKED IN AREA OF NO3 AND NO5 CYLINDER PADS - CRACKS RADIATED FROM CYLINDER BASE STUD HOLES									
7320		CESSNA 441	GARRTT TPE3318	HARTZL HCB3TN5		COMPENSATOR 8974768	LOOSE ENG EGT		4/29/97 AU970445
(AUS) LH ENGINE EGT COMPENSATOR CONNECTOR PLUG LOOSE AND CORRODED									
7321		CESSNA 441	GARRTT TPE3318	HARTZL HCB3TN5		COMPUTER 210132214	FAILED ENG FUEL CONT	1746	6/21/97 AU970710
(AUS) ENGINE FUEL COMPUTER ELECTRONIC FAILURE									
7322		CESSNA 441	GARRTT TPE3318	HARTZL HCB3TN5		FCU 89711014	MALFUNCTIONED FUEL CONT	3447	4/18/97 AU970379
(AUS) ENGINE FUEL CONTROL UNIT SUSPECT FAULTY - ENGINE SURGED AND EGT REACHED APPROXIMATELY 520 DEGREES C (OVERTEMP) - AN HOT END INSPECTION WAS CARRIED OUT WITH NO MAJOR DAMAGE FOUND									
8530		PIPER PA28161	LYC O320D3G	SNSNCH 74DM	SUPAIRPART	PISTON PIN SL134441	FAILED ENG NR 3 CYL		6/10/97 AU970665
(AUS) NO3 CYLINDER PISTON PIN FAILED RESULTING IN FAILURE OF NO3 PISTON. PARTS OF NO3 PISTON LODGED BENEATH NO4 CYLINDER EXHAUST TAPPET CAUSING IT TO FAIL ALSO. SECONDARY DAMAGE CAUSED TO CRANKCASE, CONNECTING RODS, CAMSHAFT, NO3 CYLINDER SKIRT AND NO1, NO2 AND NO3 CYLINDER TAPPETS.									
8520		PIPER PA31350	LYC LTIO540J2BD	HARTZL HCE3YR2	LYC	BEARING SL11575	FAULTY NR 3 JOURNAL		3/19/97 AU970733
(AUS) NO3 BEARING FAULTY - BEARING DOWEL ON NO3 JOURNAL HAD MOVED - SUSPECT INCORRECT FITMENT									
8520		PIPER PA44180	LYC LO360E1A6	HARTZL HCC2YR2	LYC	CAMSHAFT LW16514	SPALLED ENGINE		6/3/97 AU970734
(AUS) CAMSHAFT LOBES SPALLED AND VALVE LIFTER FACES DAMAGED - METAL CONTAMINATION OF OIL SYSTEM - LW16702ADDITIVE USED AT EACH OILCHANGE									
8520		PIPER PA44180	LYC LO360E1A6	HARTZL HCC2YR2	LYC	CAMSHAFT LW16514	SPALLED ENGINE LIFTER		6/3/97 AU970735
(AUS) ENGINE CAMSHAFT LOBES SPALLED AND VALVE LIFTER FACES DAMAGED -METAL CONTAMINATION OF OIL SYSTEM - LW16702 ADDITIVE USED AT EACH OIL CHANGE									
7260		SKRSKY S76A	ALLSN 250C30		ALLSN	NUT MS210433	SEPARATED ENG 2.5 BEARING		5/21/97 AU970663
(AUS) NO2 ENGINE GEARBOX 2.5 BEARING SUPPORT RETENTION NUTS (2OFF6) MISSING - NUTS WERE EVENTUALLY FOUND IN THE OIL PUMP SCAVENGE LINE - NUTS WERE NOTED TO BE OF AN UNUSUAL TYPE - SUSPECT UNAPPROVRD PART									

(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - ENGINES)

ATA	REG. NO	ACFT MAKE	ENG MAKE	PROP MAKE	COMP MFG	PART NAME	PART COND	TT	DIFF. DATE
OPER	SERIAL NO	ACFT MODEL	ENG MDL	PROP MDL	COMP MDL	PART NUMBER	PART LOC.	TSO	OPER CONT NO

(There was no data for this report.)

(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS)

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - PROPELLERS

1/4/98 - 1/10/98 ISSUE: 98-02 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
6111		MTSBSI		HARTZL	HARTZL	BLADE	SEPARATED		6/20/97
		MU2B30		HCB3TN5		BV561	RT PROPELLER		AU970727
(AUS) RH PROPELLER NO3 BLADE SEPARATED AT BLADE ROOT. EXTENSIVE DAMAGE CAUSED TO REDUCTION GEARBOX, ENGINE, ENGINE MOUNTS, COWLING AND NACELLE.									
6114		PIPER	LYC	HARTZL		HUB BACK PLATE	CRACKED	7	2/27/97
		PA31	TIO540A2B	HCE3YR2	CA4393308	1654	PROP		CA970318004
*****	(CAN) THIS IS THE 4TH BACK PLATE FROM CANAWEST TO BREAK SINCE THE HUB WAS REPLACED. WESTERN PROP HAS INSPECTED THE PROP HUB ON TWO SEPARATE OCCASIONS SINCE THEY REPLACED THE HUB AND ARE UNABLE TO FIND ANY FAULT. TOTAL TIME ON NEW STYLE HUB IS 136.0 HOURS. TIME OF FOLLOWING FAILURES ARE: 1ST FAILURE OF SPINNER AND BACKPLATE WAS AT 34.0 HOURS. THE 2ND AT 104.0 HOURS. THE 3RD AT 129 HOURS AND THE 4TH AT 136.0 HOURS.								
(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - PROPELLERS)									



U.S. Department
of Transportation
**Federal Aviation
Administration**

SERVICE DIFFICULTY REPORT SUMMARY

GENERAL AVIATION - INDEX



The following information provides a tally of the Service Difficulty Reports (SDR's) contained in this weeks issue of the General Aviation SDR Summary. The totals represent only a summation of the SDR's that were submitted to the FAA, Aviation Data Systems Branch, AFS-620, and processed in time for inclusion in the Summary. The first table is a tally of the number of SDR's submitted through the indicated Flight Standards District Office (FSDO). The second table sorts the SDR's by the aircraft or equipment make and model. The heading at the top of each table provides a two digit Joint Aircraft System/Component (JASC) code grouping (e.g., JASC codes 1100 thru 1800 are represented by the heading labeled 11-18) which categorizes in general, the problem areas for each reported discrepancy.

The Flight Standards Service Difficulty Program objective is to achieve prompt and appropriate correction of conditions adversely affecting continued airworthiness of aeronautical products. This is accomplished by the collection of Service Difficulty and Malfunction or Defect Reports. SDR's are consolidation and collation into common data base where they are analyzed for trends, problems, and alert information. This information is then disseminated to the appropriate segments of the aviation community and to other FAA offices.

The number of SDR's submitted is not an indicator of the mechanical reliability or fitness of an air carrier's aircraft fleet and should not be used as such. The air carriers certificate holding office has the primary responsibility for planning, programming evaluations, and assessing the performance of operators. Questions regarding an air carrier's fleet performance should be directed to the appropriate Flight Standards District Office, Certificate Management Office, or Certificate Management Unit.

GENERAL AVIATION SUMMARY INDEX BY DISTRICT OFFICE**1/4/98 To 1/10/98 ISSUE: 98-02 ZAC-327**

DISTRICT OFFICE		SDR TOTALS BY FAA ATA SYSTEM CHAPTER								TOTAL
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	
AL	05	0	0	0	0	0	0	2	0	2
AU	S	0	10	8	0	9	7	17	11	62
CA		0	1	0	0	0	1	0	0	2
CE	01	0	0	0	0	0	0	0	1	1
CE	03	0	0	0	0	4	0	0	0	4
CE	05	0	0	0	0	0	0	1	0	1
CE	07	0	0	0	0	0	0	0	1	1
CE	09	0	0	0	0	0	0	1	0	1
EA	03	0	0	0	0	0	1	0	0	1
EA	05	0	0	0	0	0	0	1	0	1
EA	17	0	0	0	0	0	1	0	0	1
EA	21	0	0	0	0	4	1	0	0	5
EA	23	0	1	0	0	0	0	1	0	2
EA	35	0	0	0	0	4	0	0	0	4
GL	03	0	0	0	0	0	13	0	1	14
GL	07	0	0	1	0	0	0	0	0	1
GL	09	0	0	1	0	0	0	1	2	4
GL	15	0	1	0	0	0	0	0	0	1
GL	19	0	1	2	0	0	0	0	0	3
GL	25	0	0	2	0	1	3	0	0	6
NE	01	0	0	1	0	0	0	0	0	1
NE	03	0	0	0	0	0	0	1	1	2
NM	05	0	0	0	0	0	0	1	1	2
NM	09	0	0	1	0	0	0	2	0	3
NM	11	0	2	0	0	0	2	2	0	6
SO	03	0	1	0	0	1	0	0	0	2

DISTRICT		SDR TOTALS BY FAA ATA SYSTEM CHAPTER								
OFFICE		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	TOTAL
SO	05	0	1	1	0	0	0	0	0	2
SO	06	0	0	0	0	0	0	1	1	2
SO	11	0	0	0	0	0	0	1	0	1
SO	13	0	1	0	0	0	0	0	0	1
SO	14	0	0	0	0	0	0	2	0	2
SO	15	0	0	0	0	2	0	0	0	2
SO	17	0	0	2	0	0	0	0	0	2
SO	19	0	0	0	0	0	1	0	0	1
SW	03	0	14	19	0	3	16	17	0	69
SW	05	0	0	0	0	0	0	0	1	1
SW	09	0	2	1	0	0	0	0	0	3
SW	15	0	0	0	0	0	0	1	0	1
SW	99	0	2	0	0	7	0	2	0	11
WP	01	0	0	3	0	0	0	0	0	3
WP	07	0	1	0	0	0	6	0	0	7
WP	09	0	0	0	0	0	0	0	1	1
WP	11	0	0	1	0	0	0	0	0	1
WP	23	0	2	0	0	0	0	0	0	2
TOTALS		0	40	43	0	35	52	54	21	245

(End of GENERAL AVIATION SUMMARY INDEX by DISTRICT OFFICE Report)

GENERAL AVIATION SUMMARY INDEX by MANUFACTURER MAKE and MODEL**1/4/98 To 1/10/98 ISSUE: 98-02 ZAC-327**

AIRCRAFT MAKE	AIRCRAFT MODEL	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								TOTAL
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	
AEROSP	AS355F1	0	0	0	0	0	1	0	0	1
AMTR	EAGLEXL2	0	1	0	0	0	0	0	0	1
AMTR	EXPRESSFT	0	0	1	0	0	0	0	0	1
AMTR	GLASAIRIII	0	1	0	0	0	0	0	0	1
AMTR	LONG EZ	0	0	0	0	0	0	1	0	1
AMTR	NORTHMAN2+2	0	0	0	0	0	0	1	0	1
AMTRNC	320LANCAIR	0	0	1	0	0	0	0	0	1
AYRES	S2RT34NORMAL	0	0	0	0	2	0	0	0	2
BEECH	200BEECH	0	1	3	0	0	0	1	0	5
BEECH	58	0	0	0	0	0	0	0	2	2
BEECH	76	0	1	0	0	6	1	1	0	9
BEECH	95A55	0	0	0	0	0	0	1	0	1
BEECH	95B55	0	0	0	0	2	0	0	0	2
BEECH	95C55	0	0	0	0	0	0	0	1	1
BEECH	A36	0	1	0	0	0	0	0	1	2
BEECH	B100	0	0	0	0	0	1	0	0	1
BEECH	B200	0	0	1	0	0	0	0	0	1
BEECH	B200C	0	0	1	0	0	0	0	0	1
BEECH	B60	0	0	0	0	1	0	0	0	1
BEECH	C90	0	0	1	0	0	0	0	0	1
BEECH	D18S	0	0	0	0	0	2	0	0	2
BEECH	H18	0	0	0	0	2	0	0	0	2
BEECH	TC45G	0	0	0	0	2	0	0	0	2
BELL	206B	0	0	0	0	0	0	1	0	1
BELL	206B3	0	1	2	0	1	0	0	0	4
BELL	206L1	0	2	1	0	0	1	3	0	7
BELL	206L1	0	0	0	0	0	1	0	0	1

AIRCRAFT MAKE	AIRCRAFT MODEL	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								TOTAL
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	
BELL	206L3	0	0	1	0	0	0	6	0	7
BELL	206L4	0	1	0	0	0	2	0	0	3
BELL	212	0	1	0	0	0	0	0	0	1
BELL	214ST	0	3	4	0	0	1	0	0	8
BELL	230	0	0	2	0	0	2	0	0	4
BELL	407	0	1	1	0	1	3	0	0	6
BELL	407	0	0	0	0	0	1	0	0	1
BELL	412	0	4	2	0	0	1	1	0	8
BELL	412	0	0	0	0	0	0	1	0	1
BELL	47G3B	0	0	0	0	0	0	1	0	1
BOLKMS	BK117A3	0	1	0	0	0	0	1	0	2
BOLKMS	BK117A4	0	0	0	0	0	0	1	0	1
BOLKMS	BK117B1	0	0	0	0	0	3	1	0	4
BOLKMS	BO105S	0	0	1	0	0	2	3	0	6
CESSNA	152	0	0	0	0	0	0	2	0	2
CESSNA	172H	0	1	0	0	0	0	0	0	1
CESSNA	172M	0	0	0	0	0	0	1	0	1
CESSNA	172N	0	0	0	0	1	0	1	0	2
CESSNA	172P	0	0	0	0	1	0	0	0	1
CESSNA	172R	0	1	0	0	0	0	0	0	1
CESSNA	172RG	0	0	0	0	0	1	0	0	1
CESSNA	182K	0	0	0	0	0	0	1	0	1
CESSNA	207A	0	1	0	0	0	0	0	0	1
CESSNA	208B	0	1	0	0	0	0	0	0	1
CESSNA	210B	0	0	0	0	0	0	1	0	1
CESSNA	210L	0	0	0	0	0	0	1	0	1
CESSNA	210M	0	0	0	0	0	0	1	3	4

AIRCRAFT MAKE	AIRCRAFT MODEL	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								TOTAL
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	
CESSNA	210N	0	1	0	0	0	0	0	0	1
CESSNA	310L	0	3	1	0	1	4	5	1	15
CESSNA	310R	0	0	1	0	0	0	0	1	2
CESSNA	337A	0	2	1	0	0	0	0	0	3
CESSNA	401A	0	0	0	0	0	0	0	2	2
CESSNA	402A	0	0	0	0	0	0	0	1	1
CESSNA	402C	0	0	1	0	0	0	0	0	1
CESSNA	411	0	0	0	0	1	0	0	0	1
CESSNA	421B	0	0	0	0	0	0	0	1	1
CESSNA	421B	0	0	0	0	0	0	0	1	1
CESSNA	421C	0	1	0	0	0	0	0	0	1
CESSNA	441	0	0	0	0	2	2	3	0	7
CESSNA	525	0	0	1	0	0	0	0	0	1
CESSNA	550	0	0	0	0	1	0	0	0	1
CESSNA	A185F	0	1	0	0	0	0	0	0	1
CESSNA	S550	0	0	0	0	1	0	0	0	1
EMB	EMB110*	0	0	0	0	0	3	0	0	3
EMB	EMB110P1	0	0	1	0	0	0	0	0	1
EMB	EMB110P2	0	0	0	0	2	0	1	0	3
GROB	G115C	0	0	0	0	1	0	0	0	1
GULSTM	690B	0	0	0	0	0	2	0	0	2
HOACAU	HK36R	0	0	1	0	0	0	0	0	1
HUGHES	500N	0	0	0	0	0	6	0	0	6
LKHEED	T33A	0	0	0	0	0	0	0	1	1
LUSCOM	8A	0	0	0	0	0	0	1	0	1
MOONEY	M20	0	0	0	0	0	2	0	0	2
MOONEY	M20C	0	1	0	0	0	0	0	0	1

AIRCRAFT MAKE	AIRCRAFT MODEL	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								TOTAL
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	
MOONEY	M20E	0	0	0	0	0	0	1	0	1
MOONEY	M20M	0	1	0	0	0	0	0	0	1
MTSBSI	MU2B30	0	0	0	0	0	1	0	0	1
MTSBSI	MU2B40	0	0	0	0	0	1	0	0	1
MTSBSI	MU2B60	0	0	0	0	0	0	1	0	1
PIPER	PA24400	0	0	0	0	0	0	1	0	1
PIPER	PA28140	0	0	1	0	0	0	1	0	2
PIPER	PA28161	0	0	0	0	0	0	0	1	1
PIPER	PA28180	0	1	0	0	0	0	0	0	1
PIPER	PA28181	0	2	0	0	0	0	0	0	2
PIPER	PA28R200	0	0	1	0	0	0	0	0	1
PIPER	PA28R201	0	0	1	0	0	0	0	0	1
PIPER	PA28RT201	0	0	0	0	1	0	0	1	2
PIPER	PA28RT201T	0	0	1	0	0	0	0	0	1
PIPER	PA31	0	0	0	0	0	1	0	0	1
PIPER	PA31350	0	0	1	0	0	0	0	0	1
PIPER	PA31350	0	1	1	0	0	0	0	1	3
PIPER	PA31T	0	1	1	0	0	0	0	0	2
PIPER	PA32300	0	0	0	0	0	0	2	0	2
PIPER	PA32301	0	0	1	0	0	0	0	0	1
PIPER	PA34200T	0	0	0	0	0	0	0	1	1
PIPER	PA34220T	0	1	0	0	0	0	0	0	1
PIPER	PA42	0	0	0	0	1	0	0	0	1
PIPER	PA44180	0	0	0	0	0	0	0	2	2
ROBSIN	R22	0	0	0	0	0	1	0	0	1
ROBSIN	R22BETA	0	0	0	0	0	3	0	0	3
SKRSKY	S64F	0	0	0	0	0	0	1	0	1

AIRCRAFT MAKE	AIRCRAFT MODEL	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	TOTAL
SKRSKY	S76A	0	1	2	0	0	0	2	0	5
SKRSKY	S76A	0	0	1	0	0	0	1	0	2
SKRSKY	S76C	0	0	0	0	0	0	1	0	1
SNIAS	AS350B2	0	0	3	0	1	3	1	0	8
SOCATA	TBM700	0	0	0	0	4	0	0	0	4
TOTALS		0	40	43	0	35	52	54	21	245

(End of AIR CARRIER SUMMARY INDEX by OPERATOR Report)

JOINT AIRCRAFT SYSTEM/COMPONENT CODE TABLE

PREFACE

The Joint Aircraft System/Component (JASC) Code Table is a modified version of the Air Transport Association of America (ATA), Specification 100 code. It was developed by the Federal Aviation Administration's (FAA), Aviation Data Systems Branch (AFS-620). Technical support was provided by the Galaxy Scientific Corporation, and various representatives of the air carrier and general aviation community.

Over the past four years, the JASC format of the ATA Spec 100 code has gained widespread industry acceptance. In a harmonized effort, the FAA's counterparts in Australia and Canada have adopted the JASC code with only a few exceptions. Some Canadian aircraft manufacturers have also recently adopted this new standard.

This code table is constructed by using the new JASC four (4) digit code, along with an abbreviated code title. The abbreviated titles have been modified in some cases to clarify the intended use of the accompanying code. This table can be used as a quick reference chart, to assist in the coding and review of aircraft structures or systems data (i.e., Service Difficulty Report (SDR), Accident/Incident Report).

The current coding scheme used in the JASC code was introduced in May 1991, for the technical classification of SDR's. Its predecessor, the FAA aircraft system/component code, was a similar but more complex eight-digit code which was developed over 25 years ago. It was constructed around the computer technology of that period. It consisted of a four digit numerical code plus a four alpha character code to make data retrieval possible. Since that time, computer technology has advanced many fold. Reducing the code from eight to four characters simplifies coding, and in some cases, makes JASC coding match the ATA Specification 100 first three digits, which are used to identify aircraft systems. The ATA code does not reference the fourth digit, so it is free to be used for identifying components.

The JASC code aircraft structural section has increased due to problems inherent with aging aircraft. As an example, FAA code 5301 SXBD was expanded to 20 items due to the high rate of reporting in this area (8021 structural reports were received in 1989). In some instances, there was very little reporting and codes were combined into other systems if the safety impact was not significant. The overall reduction in codes has been from 568 FAA codes to 488 JASC codes, with the significant increase being in the structural area as stated earlier.

The JASC code divides the engine section into two major code groups to separate the turbine and reciprocating engines. The codes for the turbine engines are in JASC Chapter 72, Turbine/Turboprop Engine. The codes for the reciprocating engines are now exclusively found in JASC Chapter 85, Reciprocating Engine.

The other major deviation from ATA Spec 100 is in ATA section 2730, specifically involves the stall warning system. Early technology (primarily on smaller aircraft) directly linked the sensing of flight attitude to one of the components which furnished the means of manually controlling the flight attitude characteristics (elevator). Today, most large transport category aircraft utilize electronic units to sense the change in the environmental condition called stall, and use the data to influence navigation. ATA section 3410, Flight Environment Data, includes high speed warning in its code definition. Stall warning (low speed) is the reciprocal term of high speed warning, so its filing under the same code appears more logical. Thus, with the JASC code it was decided to move the stall warning system to Chapter 34 under the separate code JASC code 3418, Stall Warning System.

The FAA is continuing to pursue worldwide involvement from operators and manufacturers in addressing the need for international standardization of aircraft system/component codes. The ultimate goal is to develop a universal aircraft/component numbering standard which can be used in the manufacturer's maintenance manual, wiring diagram manual, system manuals and illustrated parts catalog. This harmonized standard must be a usable standard for the aircraft manufacturers, air carrier operators and the general aviation community.

We welcome comments and feedback regarding the possible forming of working groups to achieve this long range consideration of possibly harmonizing the ATA Specification 100 code and the JASC code. Comments may be directed to the FAA, Aviation Data Sytem Branch, AFS-620, P.O. Box 25082, Oklahoma City, OK 73125.

JOINT AIRCRAFT SYSTEM/COMPONENT CODE TABLE

JASC/ TITLE

11 PLACARDS AND MARKINGS

1100 PLACARDS AND MARKINGS

12 SERVICING

1210 FUEL SERVICING
1220 OIL SERVICING
1230 HYDRAULIC FLUID SERVICING
1240 COOLANT SERVICING

18 HELICOPTER VIBRATION

1800 HELICOPTER VIB/NOISE ANALYSIS
1810 HELICOPTER VIBRATION ANALYSIS
1820 HELICOPTER NOISE ANALYSIS

21 AIR CONDITIONING

2100 AIR CONDITIONING SYSTEM
2110 CABIN COMPRESSOR SYSTEM
2120 AIR DISTRIBUTION SYSTEM
2121 AIR DISTRIBUTION FAN
2130 CABIN PRESSURE CONTROL SYSTEM
2131 CABIN PRESSURE CONTROLLER
2132 CABIN PRESSURE INDICATOR
2133 PRESSURE REGUL/OUTFLOW VALVE
2134 CABIN PRESSURE SENSOR
2140 HEATING SYSTEM
2150 CABIN COOLING SYSTEM
2160 CABIN TEMPERATURE CONTROL SYSTEM
2161 CABIN TEMPERATURE CONTROLLER
2162 CABIN TEMPERATURE INDICATOR
2163 CABIN TEMPERATURE SENSOR
2170 HUMIDITY CONTROL SYSTEM

22 AUTO FLIGHT

2200 AUTO FLIGHT SYSTEM
2210 AUTOPILOT SYSTEM
2211 AUTOPILOT COMPUTER
2212 ALTITUDE CONTROLLER
2213 FLIGHT CONTROLLER
2214 AUTOPILOT TRIM INDICATOR
2215 AUTOPILOT MAIN SERVO
2216 AUTOPILOT TRIM SERVO
2220 SPEED-ATTITUDE CORRECT. SYSTEM
2230 AUTO THROTTLE SYSTEM
2250 AERODYNAMIC LOAD ALLEVIATING

23 COMMUNICATIONS

2300 COMMUNICATIONS SYSTEM
2310 HF COMMUNICATION SYSTEM
2311 UHF COMMUNICATION SYSTEM
2312 VHF COMMUNICATION SYSTEM
2320 DATA TRANSMISSION AUTO CALL
2330 ENTERTAINMENT SYSTEM
2340 INTERPHONE & PA SYSTEM
2350 AUDIO INTEGRATING SYSTEM
2360 STATIC DISCHARGE SYSTEM
2370 AUDIO/VIDEO MONITORING

24 ELECTRICAL POWER

2400 ELECTRICAL POWER SYSTEM
2410 ALTERNATOR-GENERATOR DRIVE
2420 AC GENERATION SYSTEM
2421 AC GENERATOR-ALTERNATOR
2422 AC INVERTER
2423 PHASE ADAPTER

24 ELECTRICAL POWER CONT'D

2424 AC REGULATOR
2425 AC INDICATING SYSTEM
2430 DC GENERATING SYSTEM
2431 BATTERY OVERHEAT WARN. SYSTEM
2432 BATTERY/CHARGER SYSTEM
2433 DC RECTIFIER-CONVERTER
2434 DC GENERATOR-ALTERNATOR
2435 STARTER-GENERATOR
2436 DC REGULATOR
2437 DC INDICATING SYSTEM
2440 EXTERNAL POWER SYSTEM
2450 AC POWER DISTRIBUTION SYSTEM
2460 DC POWER/DISTRIBUTION SYSTEM

25 EQUIPMENT/FURNISHINGS

2500 CABIN EQUIPMENT/FURNISHINGS
2510 FLIGHT COMPARTMENT EQUIPMENT
2520 PASSENGER COMPARTMENT EQUIPMENT
2530 BUFFET/GALLEYS
2540 LAVATORIES
2550 CARGO COMPARTMENTS
2551 AGRICULTURAL SPRAY SYSTEM
2560 EMERGENCY EQUIPMENT
2561 LIFE JACKET
2562 EMERGENCY LOCATOR BEACON
2563 PARACHUTE
2564 LIFE RAFT
2565 ESCAPE SLIDE
2570 ACCESSORY COMPARTMENT
2571 BATTERY BOX STRUCTURE
2572 ELECTRONIC SHELF SECTION

26 FIRE PROTECTION

2600 FIRE PROTECTION SYSTEM
2610 DETECTION SYSTEM
2611 SMOKE DETECTION
2612 FIRE DETECTION
2613 OVERHEAT DETECTION
2620 EXTINGUISHING SYSTEM
2621 FIRE BOTTLE, FIXED
2622 FIRE BOTTLE, PORTABLE

27 FLIGHT CONTROLS

2700 FLIGHT CONTROL SYSTEM
2701 CONTROL COLUMN SECTION
2710 AILERON CONTROL SYSTEM
2711 AILERON TAB CONTROL SYSTEM
2720 RUDDER CONTROL SYSTEM
2721 RUDDER TAB CONTROL SYSTEM
2722 RUDDER ACTUATOR
2730 ELEVATOR CONTROL SYSTEM
2731 ELEVATOR TAB CONTROL SYSTEM
2740 STABILIZER CONTROL SYSTEM
2741 STABILIZER POSITION INDICATING
2742 STABILIZER ACTUATOR
2750 TE FLAP CONTROL SYSTEM
2751 TE FLAP POSITION IND. SYSTEM
2752 TE FLAP ACTUATOR
2760 DRAG CONTROL SYSTEM
2761 DRAG CONTROL ACTUATOR
2770 GUST LOCK/DAMPER SYSTEM
2780 LE FLAP CONTROL SYSTEM
2781 LE FLAP POSITION IND. SYSTEM
2782 LE FLAP ACTUATOR

28 FUEL

2800 AIRCRAFT FUEL SYSTEM
2810 FUEL STORAGE
2820 ACFT FUEL DISTRIB. SYSTEM
2821 ACFT FUEL FILTER/STRAINER
2822 FUEL BOOST PUMP
2823 FUEL SELECTOR/SHUTOFF VALVE
2824 FUEL TRANSFER VALVE
2830 FUEL DUMP SYSTEM
2840 ACFT FUEL INDICATING
2841 FUEL QUANTITY INDICATOR
2842 FUEL QUANTITY SENSOR
2843 FUEL TEMPERATURE INDICATING
2844 FUEL PRESSURE INDICATOR

29 HYDRAULIC POWER

2900 HYDRAULIC POWER SYSTEM
2910 HYDRAULIC, MAIN SYSTEM
2911 HYDRAULIC POWER-ACCUMULATOR-MAIN
2912 HYDRAULIC FILTER-MAIN SYSTEM
2913 HYDRAULIC PUMP. ELECT-ENG.-MAIN
2914 HYDRAULIC HANDPUMP-MAIN
2915 HYDRAULIC PRESSURE RELIEF VLV-MAIN
2916 HYDRAULIC RESERVOIR-MAIN
2917 HYDRAULIC PRESSURE REGULATOR-MAIN
2920 HYDRAULIC, AUXILIARY SYSTEM
2921 HYDRAULIC ACCUMULATOR-AUXILIARY
2922 HYDRAULIC FILTER-AUXILIARY
2923 HYDRAULIC PUMP-AUXILIARY
2925 HYDRAULIC PRESSURE RELIEF-AUXILIARY
2926 HYDRAULIC RESERVOIR-AUXILIARY
2927 HYDRAULIC PRESSURE REGULATOR-AUX.
2930 HYDRAULIC SYSTEM INDICATING
2931 HYDRAULIC PRESSURE INDICATOR
2932 HYDRAULIC PRESSURE SENSOR
2933 HYDRAULIC QUANTITY INDICATOR
2934 HYDRAULIC QUANTITY SENSOR

30 ICE AND RAIN PROTECTION

3000 ICE/RAIN PROTECTION SYSTEM
3010 AIRFOIL ANTI/DE-ICE SYSTEM
3020 AIR INTAKE ANTI/DE-ICE SYSTEM
3030 PITOT/STATIC ANTI-ICE SYSTEM
3040 WINDSHIELD/DOOR RAIN/ICE REMOVAL
3050 ANTENNA/RADOME ANTI-ICE/DE-ICE SYSTEM
3060 PROP/ROTOR ANTI-ICE/DE-ICE SYSTEM
3070 WATER LINE ANTI-ICE SYSTEM
3080 ICE DETECTION

31 INSTRUMENTS

3100 INDICATING/RECORDING SYSTEM
3110 INSTRUMENT PANEL
3120 INDEPENDENT INSTRUMENTS (CLOCK, ETC.)
3130 DATA RECORDERS (FLT/MAINT)
3140 CENTRAL COMPUTERS (EICAS)
3150 CENTRAL WARNING
3160 CENTRAL DISPLAY
3170 AUTOMATIC DATA

32 LANDING GEAR

3200 LANDING GEAR SYSTEM
3201 LANDING GEAR/WHEEL FAIRING
3210 MAIN LANDING GEAR
3211 MAIN LANDING GEAR ATTACH SECTION
3212 EMERGENCY FLOTATION SECTION
3213 MAIN LANDING GEAR STRUT/AXLE/TRUCK
3220 NOSE/TAIL LANDING GEAR
3221 NOSE/TAIL LANDING GEAR ATTACH SECTION
3222 NOSE/TAIL LANDING GEAR STRUT/AXLE
3230 LANDING GEAR RETRACT/EXT. SYSTEM
3231 LANDING GEAR DOOR RETRACT SECTION
3232 LANDING GEAR DOOR ACTUATOR
3233 LANDING GEAR ACTUATOR
3234 LANDING GEAR SELECTOR
3240 LANDING GEAR BRAKE SYSTEM
3241 BRAKE ANTI-SKID SECTION
3242 BRAKE
3243 MASTER CYL/BRAKE VALVE
3244 TIRE
3245 TIRE TUBE
3246 WHEEL/SKI/FLOAT
3250 LANDING GEAR STEERING SYSTEM
3251 STEERING UNIT
3252 SHIMMY DAMPER
3260 LANDING GEAR POSITION & WARNING
3270 AUXILIARY GEAR (TAIL SKID)

33 LIGHTS

3300 LIGHTING SYSTEM
3310 FLIGHT COMPARTMENT LIGHTING
3320 PASSENGER COMPARTMENT LIGHTING
3330 CARGO COMPARTMENT LIGHTING
3340 EXTERIOR LIGHTING
3350 EMERGENCY LIGHTING

34 NAVIGATION

3400 NAVIGATION SYSTEM
3410 FLIGHT ENVIRONMENT DATA
3411 PITOT/STATIC SYSTEM
3412 OUTSIDE AIR TEMP. IND./SENSOR
3413 RATE OF CLIMB INDICATOR
3414 AIRSPEED/MACH INDICATING
3415 HIGH SPEED WARNING
3416 ALTIMETER, BAROMETRIC/ENCODER

34 NAVIGATION CONT'D

3417 AIR DATA COMPUTER
3418 STALL WARNING SYSTEM
3420 ATTITUDE AND DIRECTION DATA SYSTEM
3421 ATTITUDE GYRO & IND. SYSTEM
3422 DIRECTIONAL GYRO & IND. SYSTEM
3423 MAGNETIC COMPASS
3424 TURN & BANK/RATE OF TURN INDICATOR
3425 INTEGRATED FLT. DIRECTOR SYSTEM
3430 LANDING & TAXI AIDS
3431 LOCALIZER/VOR SYSTEM
3432 GLIDE SLOPE SYSTEM
3433 MICROWAVE LANDING SYSTEM
3434 MARKER BEACON SYSTEM
3435 HEADS UP DISPLAY SYSTEM
3436 WIND SHEAR DETECTION SYSTEM
3440 INDEPENDENT POS. DETERMINING SYSTEM
3441 INERTIAL GUIDANCE SYSTEM
3442 WEATHER RADAR SYSTEM
3443 DOPPLER SYSTEM
3444 GROUND PROXIMITY SYSTEM
3445 AIR COLLISION AVOIDANCE SYSTEM (TCAS)
3446 NON RADAR WEATHER SYSTEM
3450 DEPENDENT POSITION DETERMINING SYSTEM
3451 DME/TACAN SYSTEM
3452 ATC TRANSPONDER SYSTEM
3453 LORAN SYSTEM
3454 VOR SYSTEM
3455 ADF SYSTEM
3456 OMEGA NAVIGATION SYSTEM
3457 GLOBAL POSITIONING SYSTEM
3460 FLIGHT MANAGE. COMPUTING SYSTEM

35 OXYGEN

3500 OXYGEN SYSTEM
3510 CREW OXYGEN SYSTEM
3520 PASSENGER OXYGEN SYSTEM
3530 PORTABLE OXYGEN SYSTEM

36 PNEUMATIC

3600 PNEUMATIC SYSTEM
3610 PNEUMATIC DISTRIBUTION SYSTEM
3620 PNEUMATIC INDICATING SYSTEM

37 VACUUM

3700 VACUUM SYSTEM
3710 VACUUM DISTRIBUTION SYSTEM
3720 VACUUM INDICATING SYSTEM

38 WATER/WASTE

3800 WATER & WASTE SYSTEM
3810 POTABLE WATER SYSTEM
3820 WASH WATER SYSTEM
3830 WASTE DISPOSAL SYSTEM
3840 AIR SUPPLY (WATER PRESS. SYSTEM)

45 CENTRAL MAINT. SYSTEM

4500 CENTRAL MAINT. COMPUTER

49 AIRBORNE AUXILIARY POWER

4900 AIRBORNE APU SYSTEM
4910 APU COWLING/CONTAINMENT
4920 APU CORE ENGINE
4930 APU ENGINE FUEL & CONTROL
4940 APU START/IGNITION SYSTEM
4950 APU BLEED AIR SYSTEM
4960 APU CONTROLS
4970 APU INDICATING SYSTEM
4980 APU EXHAUST SYSTEM
4990 APU OIL SYSTEM

51 STANDARD PRACTICES/STRUCTURES

5100 STANDARD PRACTICES/STRUCTURES
5101 AIRCRAFT STRUCTURES
5102 BALLOON REPORTS

52 DOORS

5200 DOORS
5210 PASSENGER/CREW DOORS
5220 EMERGENCY EXIT
5230 CARGO/BAGGAGE DOORS
5240 SERVICE DOORS
5241 GALLEY DOORS
5242 E/E COMPARTMENT DOORS
5243 HYDRAULIC COMPARTMENT DOORS
5244 ACCESSORY COMPARTMENT DOORS
5245 AIR CONDITIONING COMPART. DOORS
5246 FLUID SERVICE DOORS

5247 APU DOORS
5248 TAIL CONE DOORS
5250 FIXED INNER DOORS
5260 ENTRANCE STAIRS
5270 DOOR WARNING SYSTEM
5280 LANDING GEAR DOORS

53 FUSELAGE

5300 FUSELAGE STRUCTURE (GENERAL)
5301 AERIAL TOW EQUIPMENT
5302 ROTORCRAFT TAIL BOOM
5310 FUSELAGE MAIN STRUCTURE
5311 FUSELAGE MAIN FRAME
5312 FUSELAGE MAIN BULKHEAD
5313 FUSELAGE MAIN LONGERON/STRINGER
5314 FUSELAGE MAIN KEEL
5315 FUSELAGE MAIN FLOOR BEAM
5320 FUSELAGE MISCELLANEOUS STRUCTURE
5321 FUSELAGE FLOOR PANEL
5322 FUSELAGE INTERNAL MOUNT STRUCTURE
5323 FUSELAGE INTERNAL STAIRS
5324 FUSELAGE FIXED PARTITIONS
5330 FUSELAGE MAIN PLATE/SKIN
5340 FUSELAGE MAIN ATTACH FITTINGS
5341 WING ATTACH FITTINGS (ON FUSELAGE)
5342 STABILIZER ATTACH FITTINGS
5343 LANDING GEAR ATTACH FITTINGS
5344 FUSELAGE DOOR HINGES
5345 FUSELAGE EQUIPMENT ATTACH FITTINGS
5346 POWERPLANT ATTACH FITTINGS
5347 SEAT/CARGO ATTACH FITTINGS
5350 FUSELAGE AERODYNAMIC FAIRINGS

54 NACELLES/PYLONS

5400 NACELLE/PYLON STRUCTURE
5410 MAIN FRAME (ON NACELLE/PYLON)
5411 FRAME/SPAR/RIB(NACELLE/PYLON)
5412 BULKHEAD/FIREWALL (NAC/PYLON)
5413 LONGERON/STRINGER (NAC/PYLON)
5414 PLATE SKIN (NAC/PYLONS)
5415 ATTACH FITTINGS (NAC/PYLON)

55 STABILIZERS

5500 EMPENNAGE STRUCTURE
5510 HORIZONTAL STABILIZER STRUCTURE
5511 HORIZONTAL STABILIZER SPAR/RIB
5512 HORIZONTAL STABILIZER PLATE/SKIN
5513 HORIZONTAL STABILIZER TAB STRUCTURE
5520 ELEVATOR STRUCTURE

55 STABILIZERS CONT'D

5521 ELEVATOR SPAR/RIB STRUCTURE
5522 ELEVATOR PLATES/SKIN STRUCTURE
5523 ELEVATOR TAB STRUCTURE
5530 VERTICAL STABILIZER STRUCTURE
5531 VERTICAL STABILIZER SPAR/RIB STRUCTURE
5532 VERTICAL STABILIZER PLATES/SKIN
5533 VENTRAL STRUCTURE (ON VERT. STAB)
5540 RUDDER STRUCTURE
5541 RUDDER SPAR/RIB STRUCTURE
5542 RUDDER PLATE/SKIN STRUCTURE
5543 RUDDER TAB STRUCTURE
5550 EMPENNAGE FLT. CONT. ATTACH FITTING
5551 HORIZONTAL STABILIZER ATTACH FITTING
5552 ELEVATOR/TAB ATTACH FITTINGS
5553 VERT. STAB. ATTACH FITTINGS
5554 RUDDER/TAB ATTACH FITTINGS

56 WINDOWS

5600 WINDOW/WINDSHIELD SYSTEM
5610 FLIGHT COMPARTMENT WINDOWS
5620 PASSENGER COMPARTMENT WINDOWS
5630 DOOR WINDOWS
5640 INSPECTION WINDOWS

57 WINGS

5700 WING STRUCTURE
5710 WING MAIN FRAME STRUCTURE
5711 WING SPAR STRUCTURE
5712 WING RIB STRUCTURE
5713 WING LONGERON/STRINGER
5714 WING CENTER BOX
5720 WING MISCELLANEOUS STRUCTURE
5730 WING PLATES/SKINS
5740 WING ATTACH FITTINGS
5741 WING, FUSELAGE ATTACH FITTINGS
5742 WING, NAC/PYLON ATTACH FITTINGS
5743 WING, LANDING GEAR ATTACH FITTINGS
5744 CONTROL SURFACE ATTACH FITTINGS
5750 WING CONTROL SURFACE STRUCTURE
5751 AILERON STRUCTURE
5752 AILERON TAB STRUCTURE
5753 TE FLAP STRUCTURE
5754 LEADING EDGE DEVICE STRUCTURE
5755 SPOILER STRUCTURE

61 PROPELLERS/PROPULSORS

6100 PROPELLER SYSTEM
6110 PROPELLER ASSEMBLY
6111 PROPELLER BLADE SECTION
6112 PROPELLER DE-ICE BOOT SECTION
6113 PROPELLER SPINNER SECTION
6114 PROPELLER HUB SECTION
6120 PROPELLER CONTROL SYSTEM
6121 PROPELLER SYNCHRONIZER SECTION
6122 PROPELLER GOVERNOR
6123 PROPELLER FEATHERING/REVERSING
6130 PROPELLER BRAKING
6140 PROPELLER INDICATING SYSTEM

62 MAIN ROTOR

6200 MAIN ROTOR SYSTEM
6210 MAIN ROTOR BLADES
6220 MAIN ROTOR HEAD
6230 MAIN ROTOR MAST/SWASHPLATE
6240 MAIN ROTOR INDICATING SYSTEM

63 MAIN ROTOR DRIVE

6300 MAIN ROTOR DRIVE SYSTEM
6310 ENGINE/TRANSMISSION COUPLING
6320 MAIN ROTOR GEARBOX
6321 MAIN ROTOR BRAKE
6322 ROTORCRAFT COOLING FAN SYSTEM
6330 MAIN ROTOR TRANSMISSION MOUNT
6340 ROTOR DRIVE INDICATING SYSTEM

64 TAIL ROTOR

6400 TAIL ROTOR SYSTEM
6410 TAIL ROTOR BLADE
6420 TAIL ROTOR HEAD
6440 TAIL ROTOR INDICATING SYSTEM

65 TAIL ROTOR DRIVE

6500 TAIL ROTOR DRIVE SYSTEM
6510 TAIL ROTOR DRIVE SHAFT
6520 TAIL ROTOR GEARBOX
6540 TAIL ROTOR DRIVE INDICATING SYSTEM

67 ROTORS FLIGHT CONTROL

6700 ROTORCRAFT FLIGHT CONTROL
6710 MAIN ROTOR CONTROL
6711 TILT ROTOR FLIGHT CONTROL
6720 TAIL ROTOR CONTROL SYSTEM
6730 ROTORCRAFT SERVO SYSTEM

71 POWERPLANT

7100 POWERPLANT SYSTEM
7110 ENGINE COWLING SYSTEM
7111 COWL FLAP SYSTEM
7112 ENGINE AIR BAFFLE SECTION
7120 ENGINE MOUNT SECTION
7130 ENGINE FIRESEALS
7160 ENGINE AIR INTAKE SYSTEM
7170 ENGINE DRAINS

72 TURBINE/TURBOPROP ENGINE

7200 ENGINE (TURBINE/TURBOPROP)
7210 TURBINE ENGINE REDUCTION GEAR
7220 TURBINE ENGINE AIR INLET SECTION
7230 TURBINE ENGINE COMPRESSOR SECTION
7240 TURBINE ENGINE COMBUSTION SECTION
7250 TURBINE SECTION
7260 TURBINE ENGINE ACCESSORY DRIVE
7261 TURBINE ENGINE OIL SYSTEM
7270 TURBINE ENGINE BYPASS SECTION

73 ENGINE FUEL & CONTROL

7300 ENGINE FUEL & CONTROL
7310 ENGINE FUEL DISTRIBUTION
7311 ENGINE FUEL-OIL COOLER
7312 FUEL HEATER
7313 FUEL INJECTOR NOZZLE
7314 ENGINE FUEL PUMP
7320 FUEL CONTROLLING SYSTEM
7321 FUEL CONTROL/ELECTRONIC
7322 FUEL CONTROL/CARBURETOR
7323 TURBINE GOVERNOR
7324 FUEL DIVIDER
7330 ENGINE FUEL INDICATING SYSTEM
7331 FUEL FLOW INDICATING
7332 FUEL PRESSURE INDICATING
7333 FUEL FLOW SENSOR
7334 FUEL PRESSURE SENSOR

74 IGNITION

7400 IGNITION SYSTEM
7410 IGNITION POWER SUPPLY
7411 LOW TENSION COIL
7412 EXCITER
7413 INDUCTION VIBRATOR
7414 MAGNETO/DISTRIBUTOR
7420 IGNITION HARNESS (DISTRIBUTION)
7421 SPARK PLUG/IGNITER
7430 IGNITION SWITCHING

75 AIR

7500 ENGINE BLEED AIR SYSTEM
7510 ENGINE ANTI-ICING SYSTEM
7520 ENGINE COOLING SYSTEM
7530 COMPRESSOR BLEED CONTROL
7531 COMPRESSOR BLEED GOVERNOR
7532 COMPRESSOR BLEED VALVE
7540 BLEED AIR INDICATING SYSTEM

76 ENGINE CONTROLS

7600 ENGINE CONTROLS
7601 ENGINE SYNCHRONIZING
7602 MIXTURE CONTROL
7603 POWER LEVER
7620 ENGINE EMERGENCY SHUTDOWN SYSTEM

77 ENGINE INDICATING

7700 ENGINE INDICATING SYSTEM
7710 POWER INDICATING SYSTEM
7711 ENGINE PRESSURE RATIO (EPR)
7712 ENGINE BMEP/TORQUE INDICATING
7713 MANIFOLD PRESSURE (MP) INDICATING
7714 ENGINE RPM INDICATING SYSTEM
7720 ENGINE TEMP. INDICATING SYSTEM
7721 CYLINDER HEAD TEMP (CHT) INDICATING
7722 ENG. EGT/TIT INDICATING SYSTEM
7730 ENGINE IGNITION ANALYZER SYSTEM
7731 ENGINE IGNITION ANALYZER
7732 ENGINE VIBRATION ANALYZER
7740 ENGINE INTEGRATED INSTRUMENT SYSTEM

78 ENGINE EXHAUST

7800 ENGINE EXHAUST SYSTEM
7810 ENGINE COLLECTOR/TAILOPIPE/NOZZLE
7820 ENGINE NOISE SUPPRESSOR
7830 THRUST REVERSER

79 ENGINE OIL

7900 ENGINE OIL SYSTEM (AIRFRAME)
7910 ENGINE OIL STORAGE (AIRFRAME)
7920 ENGINE OIL DISTRIBUTION (AIRFRAME)
7921 ENGINE OIL COOLER
7922 ENGINE OIL TEMP. REGULATOR
7923 OIL SHUTOFF VALVE
7930 ENGINE OIL INDICATING SYSTEM
7931 ENGINE OIL PRESSURE
7932 ENGINE OIL QUANTITY
7933 ENGINE OIL TEMPERATURE

80 STARTING

8000 ENGINE STARTING SYSTEM
8010 ENGINE CRANKING
8011 ENGINE STARTER
8012 ENGINE START VALVES/CONTROLS

81 TURBOCHARGING

8100 EXHAUST TURBINE SYSTEM (RECIP)
8110 POWER RECOVERY TURBINE (RECIP)
8120 EXHAUST TURBOCHARGER

82 WATER INJECTION

8200 WATER INJECTION SYSTEM

83 ACCESSORY GEARBOXES

8300 ACCESSORY GEARBOXES

85 RECIPROCATING ENGINE

8500 ENGINE (RECIPROCATING)
8510 RECIPROCATING ENGINE FRONT SECTION
8520 RECIPROCATING ENGINE POWER SECTION

8530 RECIPROCATING ENGINE CYLINDER SECTION
8540 RECIPROCATING ENGINE REAR SECTION
8550 RECIPROCATING ENGINE OIL SYSTEM

MECHANICS CREED

UPON MY HONOR I swear that I shall hold in sacred trust the rights and privileges conferred upon me as a certified mechanic. Knowing full well that the safety and lives of others are dependent upon my skill and judgment, I shall never knowingly subject others to risks which I would not be willing to assume for myself, or for those dear to me.

IN DISCHARGING this trust, I pledge myself never to undertake work or approve work which I feel to be beyond the limits of my knowledge; nor shall I allow any non-certificated superior to persuade me to approve aircraft or equipment as airworthy against my better judgment; nor shall I permit my judgment to be influenced by money or other personal gain; nor shall I pass as airworthy aircraft or equipment about which I am in doubt, either as a result of direct inspection or uncertainty regarding the ability of others who have worked on it to accomplish their work satisfactorily.

I REALIZE the grave responsibility which is mine as a certified airman, to exercise my judgment on the airworthiness of aircraft and equipment. I, therefore, pledge unyielding adherence to these precepts for the advancement of aviation and for the dignity of my vocation.